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ABSTRACT

Some of the specific uses, outcomes, and statistical results obtained with the Social Interaction and Creativity in Communication System (SICCS) of observation are described. Particular attention is given to the different purposes to which the SICCS has been directed, including the coding units, categories, length and frequency of observation, the procedures and equipment used. Summary descriptions of the size and reported composition of the samples and settings observed and any statistical analyses and results are provided. Additional suggestions regarding the use and development of procedures, norms, and training with the SICCS are included in the report. The report is designed to serve as a supplementary guide and reference to the SICCS coding manual. Copies of the Inventory of Individually Perceived Group Cohesiveness, the Gifted and Talented Screening Form, and the Creativity Checklist are appended.
(Author/MV)

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TECHNICAL REPORT, NUMBER ONE
Summary of Studies and Uses of the SOCIAL INTERACTION AND CREATIVITY IN COMMUNICATION SYSTEM (SICCS)

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I. Introduction

This Technical Report, Number One is intended to describe in more detail some of the specific uses, outcomes, and statistical results obtained with the SOCIAL INTERACTION AND CREATIVITY IN COMMUNICATION SYSTEM (SICCS) of observation. Particular attention is given to the different purposes to which the SICCS has been directed including the coding units, categories, length and frequency of observation, the procedures and equipment, if any, used. Summary descriptions of the size and reported composition of the samples and settings observed and any statistical analyses and results are provided. Additional suggestions regarding the use and development of procedures, norms, and training with the SICCS are included in the report. The report is designed to serve as a supplementary guide and reference to the SICCS coding manual.

It is hoped that the SICCS manual and this report will help initiate, guide, and support further objective inquiry into a variety of social competencies and talents that are ignored generally in our schools, communities, and technocratic society. Its aim is to serve teachers, students, and all persons concerned with maximizing human sensibilities and potentialities in settings of social interaction.

Users of this research edition of the SOCIAL INTERACTION AND CREATIVITY IN COMMUNICATION SYSTEM are requested to communicate with the author and share with the Institute of Human Resources whenever possible any outcomes and uses of the SICCS of observation. Inturn, all future research reports, manual supplements, special issues, and training/instructional materials will be made available to you.

II. Interact Unit

Although observation is and has been essential to any application of the scientific method, it has only been in recent years that systematic observation methodology has become more visible and viable in the study of classroom verbal interaction (Rosenshine, 1970). Although no definitive work on observational theory and methodology has appeared to date, at least a hundred or more category systems (Simon and Boyer, 1970) and units of analysis have been developed to investigate one or more focal aspects of social interaction. Unfortunately, these category systems have not explicitly focused on and identified the particular set of recurrent social psychological elements defined within the SICCS talent categories. The traditional units of analysis have not focused on the immediate, spontaneous, sequentially-related, and potentially talented responses or skills of subsequent speakers. According to the SICCS conceptualization, creativity, leadership, verbal communication, and no doubt many other talents and social skills, are processes that can be examined empirically in relation to defined units of observation. These processes of interaction generate verbal products that can provide

systematic cues to the relationships, the styles of interaction, the content, the opportunity structure, and the expectational context provided in that setting. Inturn, these processes and their products may be judged via defined units of observation for their variable quality and quantity of expression.

Study 1.1 was one of the first investigations of the SICCS model and the interact unit of analysis.

Study 1.1 (Johnson, 1971)

Sample. Twenty-four social studies lessons involving 24 teachers and 630 students were selected, balanced, and stratified by teacher sex, grade level (6th or 11th), and location from a data bank of lessons recorded in ghetto and suburban Missouri public schools, The tape library is housed at the Center for Research in Social Behavior, University of Missouri, Columbia, Missouri. The sample yielded 2467 interacts.

Setting. Twelve lessons were recorded on audio-video tape in white, suburban St. Louis County public elementary and senior high schools. A second set of 12 lessons were recorded in black, urban Kansas City public elementary and senior high schools. All tapes were observed, but coding was done from the tapes and typed transcriptions.

Number of Lessons Observed. 24 (Social Studies)

Mean Time of Observation. 37.5 minutes

Coder Identity. Graduate student trainees

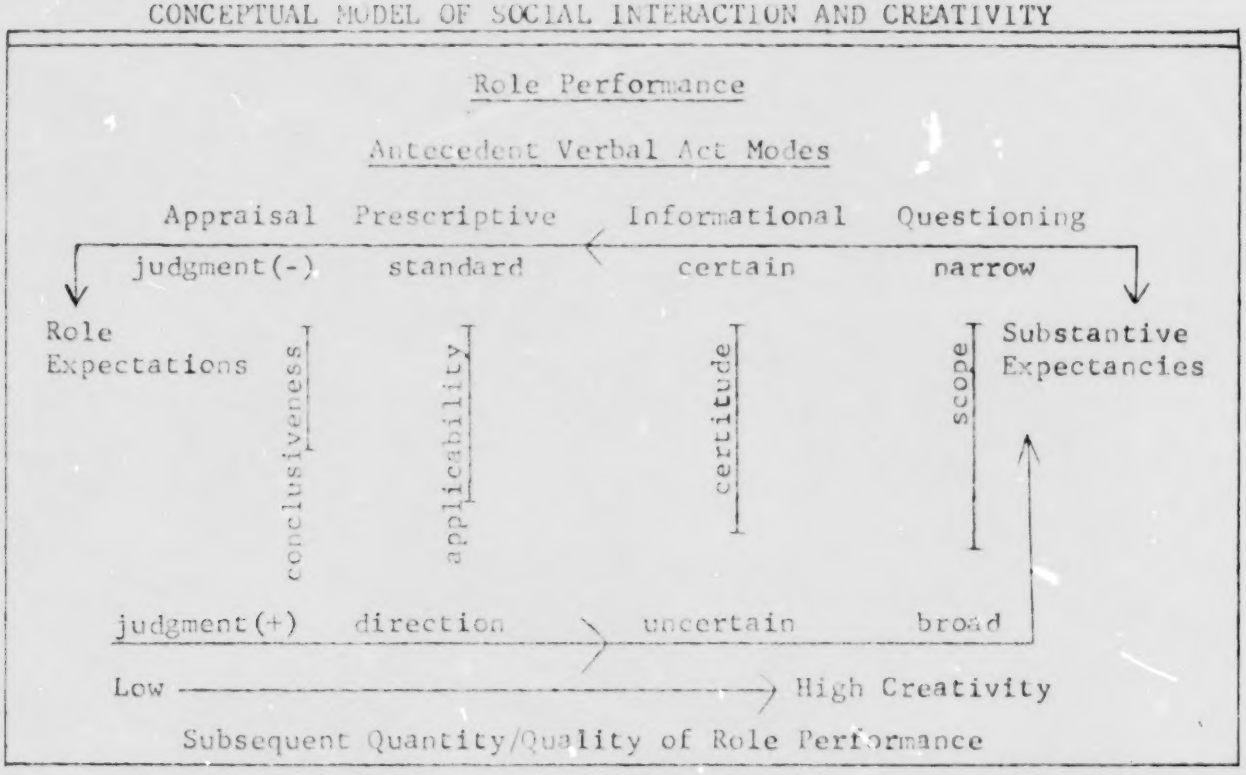
SICCS Unit/Focus of Observation. Interacts/teacher-student interaction

Level of Observation. Direct observation and audio-video tape recording with the entire set of SICCS categories

Purpose. To examine two general hypotheses from the model sketched in Figure 1. First, that an antecedent teacher verbal act enunciated clearly in a mode alternative identified on a dimension influenced more by a substantive expectancy will raise the proportional incidence of subsequent student creativity and the quantity of verbal activity more than a mode alternative influenced by a role expectation. Second, the greater the distance on a conceptualized cognitive--expectancy--semantic continuum (Figure 1.) that the mode enunciated is from role expectations, the greater the proportional incidence of subsequent student creativity and the quantity of verbal acts associated with it. Procedures followed those for audio-video tape recording described in the SICCS manual (pages 51-54).

Figure 1.

CONCEPTUAL MODEL OF SOCIAL INTERACTION AND CREATIVITY



Analyses. The major analysis consisted of cross-tabulating the teacher and student interact data and checking for the proportions distributed in relation to the stated hypotheses. Each cross-tabulation was tested for statistical significance at the .05 level by two-tailed chi square tests.[1]. Further discussion of the analyses are detailed in Johnson (1971).

Results. INTERACT TABLE 1. shows the general distribution of teacher modes involved in classroom interactions with students. INTERACT TABLE 2. shows the interact frequencies and proportions by teacher mode alternatives used to examine the two stated hypotheses. The proportional differences and the strong and statistically significant ($p < .01$**)

[1]. All cross-tabulations involving 21 or more interacts were analyzed by the Pearson chi-square test of independence between two variables. The test indicates the likelihood of having a distribution as different from statistical independence by chance alone as the observed distribution. Yates' corrected chi-square was applied to all 2 x 2 cross-tabulations having more than 21 interacts.

INTERACT TABLE 1.

	Teacher Modes				
	Total App	Total Presp	Total Inf	Total Qq	Total # Interacts
f	247	559	430	1226	2462[2].
% of total interacts	10%	23%	17%	50%	100%

[2]. The total number of interacts does not include 5 acts coded as appraisal preference which were excluded from subsequent analyses because of their infrequent occurrence.

interact relationships as well as the moderate ($p < .05$*) ones are indicated in TABLE 2. All 16 of the interact relationships favored the mode alternative (J > ℑ, d > sd, inu > in, Q > q) predicted by the first hypothesis. INTERACT TABLE 2. also shows that in 14 of 16 possible mode comparisons an increasing order of proportional difference (Qq > Inf > Presp > App) suggested by the second hypothesis was provided some support (Johnson, 1972a).

All of these interact relationships were re-examined by introducing, one at a time, the four independent control variables of student sex, race, grade level, and school setting into the cross-tabulations. Generally the relationships remained stable and the direction of effect hypothesized for each type of interact relationship according to the model (Figure 1.) was sustained.

Although not hypothesized directly, teacher prescriptive directions rather than standards and broad rather than narrow questioning acts were associated significantly ($p < .01$) with compliant student acts. Teacher uncertain rather than certain informationals (more in accordance with the model) were associated significantly ($p < .01$) with student self-initiated (SI) acts.

The reader will note in some of the subsequent studies described in this report a number of changes in procedure and adaptive uses of the SICCS of observation. Also, the SICCS categories have undergone some refinements. For example, in this section the general self-initiated (SI) category is composed of voluntary, redirected, and interrupted verbal acts. In section III on verbal act unit studies the SI category is restricted to voluntary and redirected verbal acts under the categorical term--leadership. Also, because of the typically low incidence of productive creativity in public school classrooms, the elaboration, construction, and reinterpretation subcategories are combined (summed) usually to yield one total productivity (P) score.

INTERACT TABLE 2.

	Teacher Modes								
	App		Presp		Inf		Qq		Total #
	J	j	sd	d	in	inu	q	Q	Interacts
f with S acts	7	24	7	85	33	17	68	40**	281
% with S acts	10%	13%	16%	17%	10%	16%	7%	19%	
Difference in %		+3%		+1%		+6%		+11%	
f with P acts	8	42	0	80	37	55**	41	79**	321
% with P acts	12%	24%	0%	16%	12%	32%	4%	38%	
Difference in %		+12%		+16%		+20%		+34%	
f with L[3] acts	12	46	4	150**	72	25	93	76**	478
% with L acts	18%	26%	9%	29%	22%	23%	9%	37%	
Difference in %		+8%		+20%		+1%		+28%	
f with N[4] acts	34	120*	14	292**	164	85**	258	196	1163
% with N acts	50%	67%	33%	57%	51%	79%	25%	94%	
Difference in %		+17%		+24%		+28%		+69%	

[3]. Only acts greater than one standard line (> 60 symbols and spaces) in length are included as L (long) in this cross-tabulation.

[4]. Only two or more succeeding verbal acts emitted by a student speaker are included as N (number) in this cross-tabulation.

Study 2.1 illustrates another study and use of the interact unit without the aid of video tape.

Study 2.1 (Johnson, 1972b)

Sample. Four undergraduate, predominantly white, public community college classes consisting of 4 teachers and 139 students were selected at random and stratified by teacher. The sample yielded 520 interacts.

Setting. Four sociology classrooms were visited twice each during the study by student trainees who coded, audio-recorded, and typed transcriptions of verbal interaction according to the procedures described in the SICCS manual for observation and audio tape-recording (pages 38-39) and transcribing (pages 42-48).

Number of Lessons Observed. 8 (Sociology)

Mean Time of Observation. 50 minutes

Coder Identity. College student trainees

SICCS Unit/Focus of Observation. Interacts/teacher-student interaction

Level of Observation. Direct observation and audio tape-recording with the entire set of SICCS categories.

Other Measures. School and College Ability Test (SCAT), Opinion, Attitude, and Interest Survey (OAIS), Torrance Tests of Creative Thinking (TTCT)--Verbal Test Booklet A (Thinking Creatively With Words.)

Purpose. To reexamine the hypothesis that an antecedent teacher verbal act enunciated in a mode influenced by a more substantive expectancy will facilitate a greater proportion of student creativity and quantity of verbal activity than a mode influenced more by a role expectation. Inturn, the greater the distance the mode enunciated is from a role expectation, the greater the proportional incidence of subsequent student creativity and quantity of verbal activity associated with it. Also, the top ten student SCAT and TTCT scores were correlated with the student ranks on positive self-referenced (S), productive (P), length (L), and number (N) of acts for each classroom.

Analyses. The analysis was directed at the cross-tabulated teacher and student interact data. Each cross-tabulation involving a directed hypothesis was tested for statistical significance at the .05 level by one-tailed chi square techniques (Siegel, 1956). Each interact found to be statistically significant was reexamined under the control of a third category variable (e.g., student sex, age, grade level).

Results. INTERACT TABLE 3. shows the distribution of teacher modes involved in classroom interactions with students. TABLE 4. shows the interact relationships found to be strong and statistically significant ($p < .01$**) and moderately ($p < .05$*) associated. Fifteen of the 16

INTERACT TABLE 3.

	Teacher Modes				
	Total App	Total Presp	Total Inf	Total Qq	Total # Interacts
f	50	115	120	235	520
% of total interacts	10%	22%	23%	45%	100%

interact relationships favored the mode alternative predicted by the first hypothesis. The only exception was the prescriptive cross-tabulation with the number (N) of succeeding acts. By reading the

INTERACT TABLE 4.

	Teacher Modes								
	App		Presp		Inf		Qq		Total # Interacts
	-J	J	sd	d	in	inu	q	Q	
f with S acts	1	5	0	20	6	7	22	11**	72
% with S acts	8%	13%	0%	18%	7%	19%	12%	26%	
Difference in %		+5%		+18%		+12%		+14%	
f with P acts	0	2	0	10	1	7**	5	9**	34
% with P acts	0%	5%	0%	9%	1%	19%	3%	21%	
Difference in %		+5%		+9%		+18%		+18%	
f with L[5] acts	2	10	0	26	12	8	9	14**	81
% with L acts	17%	26%	0%	23%	14%	22%	5%	33%	
Difference in %		+9%		+23%		+8%		+28%	
f with N[6] acts	4	19	2	39	22	17*	28	24**	155
% with N acts	33%	50%	50%	35%	26%	47%	15%	56%	
Difference in %		+17%	-15%			+21%		+41%	

[5]. Only acts greater than one standard line (> 60 symbols and spaces) in length are included as L (long) in this cross-tabulation.

[6]. Only two or more succeeding verbal acts emitted by a student speaker are included as N (number) in this cross-tabulation.

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proportional mode differences associated with the student talent categories across TABLE 4., one notices that in 13 of the 16 possible comparisons there is a definite tendency for the differences to increase (Qq > Inf Presp > App) as one moves away from the appraisal solicited interactions. The exceptions were the informational cross-tabulations with positive self-referenced acts (12% < 18%), and with act length (8% < 23%), and the prescriptive cross-tabulation with the number of succeeding acts (-15% < 17%). All of these interact relationships were reexamined by introducing a third control variable (student sex, age, grade level) into the respective cross-tabulations. In all cases the proportions remained relatively stable, and there were no significant changes in the directions predicted.

TABLE 5. reports the raw means and standard deviations for the SCAT, OAIS, and TTCT measures. Student scores on the OAIS intellectual quality scale correlated positively (r=.40) with the SCAT verbal scores and the TTCT originality (r=.32) and flexibility (r=.29) scores ($p < .001$ for two-tailed t tests). But subsequent Spearman rank correlations

MEASURES TABLE 5.

	Mean	SD
SCAT		
verbal	25.1	7.6
OAIS		
intellectual quality	48.1	6.3
social adjustment	55.4	7.0
emotional adjustment	53.5	9.9
masculine orientation	46.7	8.9
achievement orientation	37.7	5.5
creativity	41.5	7.7
TTCT		
fluency	65.1	21.8
flexibility	32.9	8.4
originality	27.1	11.2

among the top ten observed classroom performances on each of the SICCS talent categories for each classroom did not reach statistical significance when computed against their respective SCAT verbal and TTCT originality ranks. However, it should be noted that only 51% of the total sample participated at least one time in a classroom verbal interaction with the teacher during the course of 4 observed lessons. Also, Torrance (1965), Eisenman (1970), and Johnson (1974) have reported a general decline in creativity scores on the Torrance Tests as the formal education and training of subjects has increased.

Finally, observational study 4.1 describes another use of the interact unit with audio tape-recording. But this time the investigation is conducted in order to document baseline interaction patterns in heterogeneous bilingual classrooms, evaluate classroom climates, and make specific recommendations regarding teacher inservice training, classroom composition, and program development.

Study 4.1 (Johnson, 1974)

Sample. The sample consisted of 36 audio-taped bilingual classroom lessons recorded during a ten-day period of observation. Four lessons from each of nine elementary (K, 1-3) classrooms were selected, but one untranslated lesson (in Spanish) was omitted. The racial/ethnic composition of the classes ranged from 35-68% Mexican-American, 3-52% black and 4-55% white. The sample of 9 teachers, 9 teacher aids, and 225 pupils yielded a total of 2010 interactions.

Setting. Nine city-based, public,bilingual elementary school classrooms were visited by graduate student trainees who coded, audio-recorded, and typed transcriptions of classroom dialogue according to the procedures outlined in the SICCS manual (pages 38-48).

Number of Lessons Observed. 36 (12 Reading, 12 Language Arts, 12 Social Studies)
Mean Time of Observation. 30.8 minutes

Coder Identity. Graduate student trainees

SICCS Unit/Focus of Observation. Interacts/teacher-pupil interaction

Level of Observation. Direct observation and audio tape-recording with the entire set of SICCS categories

Other Measures. Metropolitan Readiness Test (Kindergarten, 1st grade), Otis-Lennon Mental Ability Test-Elementary 1 Level-Form J (2nd, 3rd grade)

Purpose. Secondarily to reexamine the conceptual structure of the SICCS in racially/culturally mixed, bilingual classrooms. Primarily to document and evaluate the teacher-pupil interaction patterns and verbal performance outcomes of pupils in each classroom. The basic procedures for direct observation and audio tape-recording were followed (SICCS manual, pages 38-39, 42-48).

Analyses. Data were analyzed by cross-tabulating each teacher mode interact with the pupil variables in 2 x 2 contingency tables. Chi square, one-tailed tests of significance at the conventional .05 level, corrected for continuity, were run on each cross-tabulation. Each interact relationship was reexamined against the controls of pupil sex, race, and dominant racial/ethnic composition of the classroom. Teacher-pupil interacts were compared with pupil-pupil interacts. Kendall tau correlations between pupil's within-classroom ranks on intelligence or achievement and their observed performance ranks on the SICCS talent categories were computed.

Results. INTERACT TABLE 6. shows the distribution of teacher modes involved in classroom interactions with pupils. TABLE 7. includes interact relationships that displayed strong and statistically significant ($p < .01$**) and moderate ($p < .05$*) associations. Fourteen of the 20 interact findings provide some support for the underlying SICCS theoretical structure (see Figure 1.). The stability of these interact relationships was sustained when examined against the control of pupil racial/ethnic identity.

INTERACT TABLE 6.

Teacher Modes					
	Total App	Total Presp	Total Inf	Total Qq	Total # Interacts
f	141	410	240	536	1327
% of total interacts	11%	31%	18%	40%	100%

INTERACT TABLE 7.

Teacher Modes									
	App		Presp		Inf		Qq		Total #
	J	J	sd	d	in	inu	q	Q	Interacts
f with SI acts	27	60	35	179	128	62**	200	56	747
% with SI acts	66%	60%	78%	50%	75%	91%	47%	56%	
Difference in %	-6%		-28%			+16%		+9%	
f with S acts	6	20	14	39**	24	12	44	18*	177
% with S acts	15%	20%	69%	89%	14%	18%	10%	17%	
Difference in %		+5%		+20%		+4%		+7%	
f with P acts	4	9	1	14	14	15**	14	30**	101
% with P acts	10%	9%	2%	4%	8%	22%	3%	28%	
Difference in %	-1%			+2%		+14%		+25%	
f with L[7] acts	14	55*	29	198	85	44*	139	70**	634
% with L acts	36%	55%	64%	54%	50%	65%	33%	65%	
Difference in %		+19%	-10%			+15%		+32%	
f with N acts	4	4	4	25	15	7	31	16*	106
% with N acts	10%	4%	9%	7%	9%	10%	7%	13%	
Difference in %	-6%		-2%			+1%		+6%	

7. Only acts greater than the first quartile range (>14 symbols and spaces) of a standard line in length are included as L (long) in this cross-tabulation.

Mexican-American pupils (who represented 52% of the sample) were individualized, i.e. specifically targeted, more frequently (32%) by teachers than either black (16%) or white (19%) pupils. Inturn, Mexican-American pupils responded more frequently (47%) than black (22.5%) or white (30.5%) pupils to antecedent teacher modes. Although male pupils represented 49.3% of the sample, teachers individualized male

pupils more often (41%) than female pupils (26%) or the class as a whole (33%). Male pupils responded almost twice as often (66%) as female pupils (34%) to each type of antecedent teacher mode. The disproportionate ratio of verbal participation by sex is reflected in the respective interact talent outcomes for pupils in TABLE 8.

OBSERVED PUPIL TALENT PERFORMANCE BY SEX
TABLE 8.

	SEX				
	Male		Female		
Talent	f	%	f	%	Total
SI	500	64.5	225	35.5	775
S	113	65	61	35	174
P	79	78	22	22	101
L[8.]	415	65	222	35	637
N	70	69	31	31	101

[8.] Length represents codings beyond the first quartile range (>14 symbols and spaces) of a standard line.

Also, teacher-pupil interactions appeared to have a greater differential impact on the quality and quantity of observed pupil performance than did pupil-pupil interactions. As shown in TABLES 9. and 10., no significant rank correlation was found with either of the two tests and the observed categories of pupil performance.

METROPOLITAN READINESS TEST SCORES AND OBSERVED PUPIL TALENT PERFORMANCE BY CLASSROOM
TABLE 9.

	Pupil Talent				
Class #	SI	S	P	L	N
2	-.56	-.16	.23	.04	.11
3	.38	.14	.21	.00	-.11
4	.18	.23	.17	.25	.31
5	.18	.20	.03	.11	-.39
6	.44	.14	.61	.57	.49
7	-.18	-.05	.05	-.09	-.21
mean	.07	.08	.23	.15	.03

$r = \pm .66, p < .05$ (one-tailed Z test)

OTIS-LENNON MENTAL ABILITY TEST SCORES
AND OBSERVED PUPIL TALENT PERFORMANCE BY CLASSROOM
TABLE 10.

	Pupil Talent									
	SI		S		P		L		N	
Classroom #	%[9]	DIQ[10]	%	DIQ	%	DIQ	%	DIQ	%	DIQ
1	.52	.36	.45	.21	.57	.36	.59	.61	.57	.59
8	.38	.39	.36	.39	.31	.32	.23	.25	.15	.17
9	.08	.16	-.03	-.27	.13	-.07	.10	.13	.05	.07
mean	.33	.30	.26	.11	.34	.20	.31	.33	.28	.28

9. Percentile rank is the relative position of a given pupil when his total score is compared with the scores achieved by pupils comprising the test's normative group.

10. Deviation I.Q. is a normalized standard score which serves as an index of the pupil's relative standing on the test compared with pupils of similar chronological age.

$r=\pm.66, p<.05$ (one-tailed Z test)

Discussion. The informational and questioning modes rather than the value and control modes of teacher expectation were related significantly and more consistently with the creative quality and overall quantity of pupil verbal performance.

These findings suggested that considerable teacher attention, interaction, and emphasis on prescriptive verbal control was directed at male Mexican-American pupils. Since seven of the nine female teachers were white and none Mexican-American, their verbalized standards may have lacked sufficient cultural-sex role legitimacy to induce as much male Mexican-American pupil compliance. The higher incidence of verbal behavior and self-initiated acts is in line with the machisimo tradition, but, inturn, was not associated with a greater amount of creativity.

Eight of the nine female teacher's aids were Mexican-American and none were white. The subordinate position that these aids occupied, and their low frequency of public communication and interaction with pupils in the classroom suggested that they may have provided a passive and compliant role model for female, particularly Mexican-American, pupils.

On the basis of these and other related findings, a set of recommendations were made to the school district to initiate and sponsor bilingual teacher participation in a series of interaction-feedback and creativity workshops, to restructure the racial/ethnic/sex composition of the classrooms (teachers, aids, pupils), to encourage and support teacher and pupil involvements in more small group, role-playing, and improvisation-type of activities, and to explore opportunities to work with parents and community groups (e.g., The Council for Ideals in Action) interested in facilitating bilingual learning and performance experiences.

The use of the interact unit with audio and audio-video recording equipment enables the investigator to collect, store, and order his data according to the explicit SICCS rules and systematic procedures before analyzing the data and interpreting the results. Thus, each step in the behavioral observation process can be carried on independently of each other and irrespective of the purpose at hand. The outcomes of this process should be more objective, comprehensive, detailed, and reliable than conventional post-hoc ratings, check-listings, participant observation, and retrospective speculation.

III. Verbal Act Unit

Probably the most important single element in the learning and use of the SICCS is the verbal act unit. The verbal act is a distinctive content/form component in ongoing interactions. The unit provides cues to the underlying cognitive and expectational processes of the speaker. Verbal acts within a given language system contribute to and help build the contextual stage of understandings upon which any subsequent speaker performance is played. Finally, verbal acts represent a prominent and multi-faceted medium for social stimulation, role manipulation, self-expression, and creative behavioral performance.

This verbal act unit must be understood, and the rules for identifying it (see p. 16 in the manual) followed consistently to assure and strengthen further the operational basis and subsequent coding reliability and utility of direct observations.

The studies to be reported in this section are but a small sampling of investigations underway. However, they do characterize some of the many possible uses and the kinds of knowledge to be gained through direct observation and the coding of verbal act units.

Two questions are of general interest and pertinent to this section. First, what is the actual and comparative raw output of verbal behavior in each of the SICCS mode and talent categories? Second, what is the construct and empirical validity of the SICCS talent categories in terms of their association with standardized measures of cognition and achievement, other measures of creativity, checklists, and related research findings?

The reader will note that the SICCS leadership score is the sum total of the voluntary and redirected (V+↻) verbal acts. The creativity score is the summation of the positive self-referenced and productive (S+P) verbal acts. The communication score is the summation of the speaker's long acts and the total number (L+N) of verbal acts emitted.

Standardized achievement. The following studies report findings in the SICCS talent categories and standard measures of achievement.

Study 5.18

Sample. A class of 23 2nd grade pupils

Setting. A city-based, public elementary schoolroom

Number of Lessons Observed. 4 (2 Social Studies, 1 Science, 1 Language Arts)

Mean Time of Observation. 19.3 minutes

Coder Identity. IHR trainee

SICCS Unit/Focus of Observation. Verbal acts/all pupils as individuals

Level of Observation. Direct observation only/3 talent categories

Other Measures. Stanford Achievement Test-Primary Level 1

Purpose. To correlate and compare pupil SAT total battery and vocabulary scores with their observed leadership, creativity, and verbal communication in the classroom.

Results.

SAT/SICCS TABLE 11.

	mean	SD	range
SAT			
total battery	36.1	11.1	17-60
vocabulary	31.8	10.8	14-60
SICCS			
leadership	.9	1.3	0-4
creativity	3.2	3.4	0-10
communication	15.7	14.5	0-46

NOTE: All means and standard deviations reported in this section are individual not group scores unless otherwise indicated.

PRODUCT-MOMENT CORRELATIONS OF MEASURES BY
OBSERVED PUPIL TALENT PERFORMANCE
TABLE 12.

	Leadership	Creativity	Communication
SAT			
total battery	.59**	.78**	.67**
vocabulary	.48*	.19	.44*

$r \geq .40$(d.f.=22) $p < .05$,*$r \geq .52$ $p < .01$**

Study 5.19

Sample. A class of 22 3rd grade pupils

Setting. A city-based, public elementary schoolroom

Number of Lessons Observed. 4 (2 Science, 1 Social Studies, 1 Reading)

Mean Time of Observation. 16.5 minutes

Coder Identity. IHR trainee

SICCS Unit/Focus of Observation. Verbal acts/all pupils as individuals

Level of Observation. Direct observation only/3 talent categories

Other Measures. Stanford Achievement Test-Primary Level II

Purpose. To correlate and compare pupil SAT total battery and vocabulary scores with their observed leadership, creativity, and verbal communication in the classroom.

Results.

SAT/SICCS TABLE 13.

	mean	SD	range
SAT			
total battery	46.2	10.5	28-65
vocabulary	44.3	9.4	27-55
SICCS			
leadership	1.6	1.7	0-7
creativity	4.5	4.8	0-19
communication	13.7	10.5	2-39

PRODUCT-MOMENT CORRELATIONS OF MEASURES BY OBSERVED PUPIL TALENT PERFORMANCE
TABLE 14.

	Leadership	Creativity	Communication
SAT			
total battery	-.02	.20	.33
vocabulary	.17	.14	.26

Study 5.16

Sample. A class of 20 5th graders

Setting. A city-based, public elementary school classroom

Number of Lessons Observed. 3 (Social Studies)

Mean Time of Observation. 15.3 minutes

Coder Identity. IHR trainee

SICCS Unit/Focus of Observation. Verbal acts/all students as individuals

Level of Observation. Direct observation only/3 talent categories

Other Measures. Stanford Achievement Test-Intermediate Level I (Form A)

Purpose. To correlate and compare student SAT complete battery scores with their observed leadership, creativity, and verbal communication in the classroom.

Results.

SAT/SICCS TABLE 15.

	mean	SD	range
SAT			
Complete Battery	56.4	11.8	40-78
Leadership	2.8	3.3	0-9
Creativity	1.0	1.9	0-8
Communication	9.7	9.5	0-35

PRODUCT-MOMENT CORRELATION SAT BY OBSERVED STUDENT TALENT PERFORMANCE
TABLE 16.

	Leadership	Creativity	Communication
SAT	.28	.50*	.42

$r \geq .43 (d.f. = 19) p < .05$*

Study 5.17

Sample. A class of 19 5th grade students

Setting. A city-based, public elementary schoolroom

Number of Lessons Observed. 3 (1 Math, 1 Science, 1 Social Studies)

Mean Time of Observation. 23 minutes

Coder Identity. IHR trainee

SICCS Unit/Focus of Observation. Verbal acts/all students as individuals

Level of Observation. Direct observation only/3 talent categories

Other Measures. Stanford Achievement Test-Intermediate Level I (Form A)

Purpose. To correlate and compare student SAT complete battery scores with their observed leadership, creativity, and verbal communication in the classroom.

Results.

SAT/SICCS TABLE 17.

	mean	SD	range
SAT			
complete battery	60.0	11.9	43-95
SICCS			
leadership	.3	.7	0-3
creativity	.5	.8	0-3
communication	7.0	5.1	1-21

PRODUCT-MOMENT CORRELATION SAT BY OBSERVED
STUDENT TALENT PERFORMANCE
TABLE 18.

	Leadership	Creativity	Communication
SAT	.60**	.38	.37

$r \geq .56$ (d.f.=18) $p < .01$**

Study 5.21

Sample. A class of 55 9th grade students

Setting. City-based, public high school classrooms

Number of Lessons Observed. 13 (2 Biology, 2 Physics, 2 Algebra, 1 Math, 1 Political Science, 3 English, 2 History)

Mean Time of Observation. 21.2 minutes

Coder Identity. IHR trainee

SICCS Unit/Focus of Observation. Verbal acts/all students as individuals

Level of Observation. Direct observation only/3 talent categories

Other Measures. Science Research Associates' High School Placement Test (SRA-HSPT)

Purpose. To correlate and compare pre-observation SRA-HSPT composite achievement scores and educational ability quotients with post-test observations of leadership, creativity, and verbal communication in the classroom.

Results.

SRA/SICCS TABLE 19.

	mean	SD	range
HSPT			
composite achievement	83.4	17.9	51-117
educational ability	100.8	11.7	66-117
SICCS			
leadership	1.8	2.2	0-9
creativity	.8	1.3	0-6
communication	16.7	18.2	0-69

PRODUCT-MOMENT CORRELATIONS OF MEASURES BY OBSERVED STUDENT TALENT PERFORMANCE
TABLE 20.

	Leadership	Creativity	Communication
HSPT			
composite achievement	.16	.19	.19
educational ability	.36**	.04	.29*

$r \geq .26$ (d.f.=54) $p < .05$, *$r \geq .34$ $p < .01$**

Checklists. The following studies report additional findings in the SICCS talent categories and standard measures of intelligence and achievement. However, a number of these studies include the use of checklists on creativity, leadership, and intelligence developed by the Institute of Human Resources. Sample copies of these checklists may be found in section V. Appendix.

Study 5.8

Sample. A self-contained class of 15 1st grade pupils

Number of Lessons Observed. 4 (3 Reading, 1 Science)

Mean Time of Observation. 21.3 minutes

Coder Identity. Special education teacher

SICCS Unit/Focus of Observation. Verbal acts/all pupils as individuals

Level of Observation/Categories. Direct observation only/3 talent categories

Other Measures. Creativity Checklist, Leadership Checklist, Intelligence Checklist, Stanford Achievement Test-Primary Level 1

Purpose. To correlate and compare creativity, leadership, intelligence scores attributed to pupils by their teacher with their SAT composite percentile scores and observed leadership, creativity, and verbal communication in the classroom.

The results of this study are continued on the next page.

Results.

MEASURES/SICCS TABLE 21.

	mean	SD	range
C Checklist	11.9	1.3	9-15
L Checklist	11.8	2.5	8-16
I Checklist	11.6	2.1	7-15
SAT			
composite percentile	53.9	19.5	20-96
SICCS			
leadership	16.0	15.1	1-44
creativity	5.5	6.5	0-20
communication	34.1	29.5	6-90

PRODUCT-MOMENT CORRELATIONS OF MEASURES BY OBSERVED PUPIL TALENT PERFORMANCE
TABLE 22.

	Leadership	Creativity	Communication
C Checklist	.52*	.73**	.55*
L Checklist	.67**	.75**	.69**
I Checklist	.49	.63**	.48*
SAT			
composite percentile	.61*	.73**	.58*

$r \geq .50 (d.f. = 14) p < .05, *r \geq .62 p < .01$**

Study 5.26

Sample. A self-contained class of 14 1st grade pupils

Setting. A rural-based, public elementary school classroom

Number of Lessons Observed. 4 (3 Reading, 1 Vocabulary)

Mean Time of Observation. 15.3 minutes

Coder Identity. IHR trainees

SICCS Unit/Focus of Observation. Verbal acts/pupils as individuals

Level of Observation. Direct observation only/3 talent categories

Other Measures. Science Research Associates' Achievement Series-Primary I Battery, Lorge-Thorndike Intelligence Test, Creativity Checklist, Intelligence Checklist, Leadership Checklist

Purpose. To correlate and compare pupil SRA vocabulary and spelling achievement scores, Lorge-Thorndike I.Q. scores, and creativity, intelligence, leadership scores attributed to pupils by their teacher to post-test observations of creativity, leadership, and verbal communication in the classroom.

Results.

MEASURES/SICCS TABLE 23.

	mean	SD	range
SRA			
vocabulary	24.0	8.1	15-48
spelling	28.2	5.1	15-34
Lorge-Thorndike I.Q.	113.5	12.8	92-139
C Checklist	10.9	3.6	5-17
I Checklist	10.5	4.4	4-17
L Checklist	10.3	4.7	4-18
SICCS			
leadership	7.8	5.5	1-22
creativity	2.6	2.1	0-7
communication	21.5	9.4	11-44

PRODUCT-MOMENT CORRELATIONS OF MEASURES BY OBSERVED PUPIL TALENT PERFORMANCE
TABLE 24.

	Leadership	Creativity	Communication
SAT			
vocabulary	.06	.26	.92**
spelling	.06	.20	.07
Lorge-Thorndike I.Q.	.08	.54*	.25
C Checklist	.11	.59*	.36
I Checklist	.11	.60*	.36
L Checklist	.17	.55*	.34

$r \geq .51 (d.f.=13) p < .05^{*}, r \geq .64 p < .01^{**}$

Study 5.9

Sample. A self-contained class of 21 2nd grade pupils

Setting. A small, rural, public elementary school classroom

Number of Lessons Observed. 4 (Health & Safety)

Mean Time of Observation. 17.5 minutes

Coder Identity. Special education teacher

SICCS Unit/Focus of Observation. Verbal acts/all pupils as individuals

Level of Observation/categories. Direct observation only/3 talent categories

Other Measures. Creativity Checklist, Leadership Checklist, Intelligence Checklist, Stanford Achievement Test-Level II

Purpose. To correlate and compare creativity, leadership, intelligence scores attributed to pupils by their special education teacher with their SAT composite percentile scores and observed leadership, creativity, and verbal communication in the classroom.

Results.

MEASURES/SICCS TABLE 25.

	mean	SD	range
C Checklist	10.4	3.6	6-19
L Checklist	12.0	4.1	6-20
I Checklist	11.7	4.3	6-20
SAT			
composite percentile	75.0	20.2	26-99
SICCS			
leadership	11.0	8.1	0-33
creativity	2.3	2.7	0-13
communication	22.1	16.2	1-71

The correlational results for this study are reported on the next page.

PRODUCT-MOMENT CORRELATIONS OF MEASURES BY OBSERVED PUPIL TALENT PERFORMANCE
TABLE 26.

	Leadership	Creativity	Communication
C Checklist	.39	.34	.33
L Checklist	.16	-.01	.14
I Checklist	.14	.01	.08
SAT composite percentile	-.10	-.13	-.55**

$r \geqslant .54 (d.f.=20) p < .01$**

Study 5.10

Sample. A self-contained class of 22 3rd grade pupils

Setting. A small, rural, public elementary school classroom

Number of Lessons Observed. 4 (Science)

Mean Time of Observation. 23.8 minutes

Coder Identity. Special education teacher

SICCS Unit/Focus of Observation. Verbal acts/all pupils as individuals

Level of Observation. Direct observation only/3 talent categories

Other Measures. Creativity Checklist, Leadership Checklist, Intelligence Checklist, Stanford Achievement Test-Level III

Purpose. To correlate and compare creativity, leadership, and intelligence scores attributed to pupils by their regular teacher with their SAT composite percentile scores and observed leadership, creativity, and verbal communication in the classroom.

The results of this study are reported on the next page.

MEASURES/SICCS TABLE 27.

	mean	SD	range
C Checklist	10.7	3.1	4-16
L Checklist	11.0	2.7	5-15
I Checklist	10.9	2.5	4-15
SAT			
composite percentile	57.3	27.0	2-94
SICCS			
leadership	6.0	7.2	0-24
creativity	.3	3.0	0-2
communication	19.2	17.0	0-66

PRODUCT-MOMENT CORRELATIONS OF MEASURES BY OBSERVED PUPIL TALENT PERFORMANCE
TABLE 28.

	Leadership	Creativity	Communication
C Checklist	.30	.32	.42*
L Checklist	.31	.38	.46*
I Checklist	.23	.29	.36
SAT			
composite percentile	.15	.45*	.30

$r \geq .41 (d.f.=21) p < .05$*

Study 5.7

Sample. A self-contained classroom of 25 3rd grade pupils

Setting. A small, public, elementary school classroom

Number of Lessons Observed. 4 (Math)

Mean Time of Observation. 26.3 minutes

Coder Identity. IHR trainee

SICCS Unit/Focus of Observation. Verbal acts/all pupils as individuals

Level of Observation/Categories. Direct observation only/3 talent categories

Other Measures. Creativity Checklist, Leadership Checklist, Intelligence Checklist, Cognitive Abilities Test

Purpose. To correlate and compare creativity, leadership, and intelligence scores attributed to pupils by the teacher and pupil CAT verbal, quantitative, nonverbal scores with post-test codings of observed leadership, creativity, and verbal communication in the classroom.

MEASURES/SICCS TABLE 29.

	mean	SD	range
CAT			
verbal	99.3	10.7	79-120
quantitative	100.3	11.2	78-122
nonverbal	98.3	10.0	72-113
C Checklist	10.6	2.4	6-17
L Checklist	11.0	2.7	8-16
I Checklist	10.1	3.0	6-18
SICCS			
leadership	5.2	6.3	0-27
creativity	.9	1.1	0-4
communication	13.4	16.1	0-79

PRODUCT-MOMENT CORRELATIONS OF MEASURES BY OBSERVED PUPIL TALENT PERFORMANCE
TABLE 30.

	Leadership	Creativity	Communication
CAT			
verbal	.13	-.22	-.06
quantitative	-.06	-.06	-.28
nonverbal	.00	-.17	-.18
C Checklist	-.02	-.16	.11
L Checklist	.19	-.07	-.01
I Checklist	.18	-.08	.01

Study 5.11

Sample. A self-contained class of 20 4th grade students.

Setting. A small, rural, public elementary school classroom

Number of Lessons Observed. 4 (Social Studies)

Mean Time of Observation. 22.5

Coder Identity. Special education teacher

SICCS Unit/Focus of Observation. Verbal acts/all pupils as individuals

Level of Observation. Direct observation only/3 talent categories

Other Measures. Creativity Checklist, Leadership Checklist, Intelligence Checklist, Stanford Achievement Test-Intermediate Level I

Purpose. To correlate and compare creativity, leadership, intelligence scores attributed to students by their classroom teacher with their SAT composite percentile scores and observed leadership, creativity, and verbal communication in the classroom.

PRODUCT-MOMENT CORRELATIONS OF MEASURES BY OBSERVED PUPIL TALENT PERFORMANCE
TABLE 31.

	Leadership	Creativity	Communication
C Checklist	.56**	.39	.52*
L Checklist	.32	.23	.24
I Checklist	.45*	.33	.41
SAT	.25	.19	.21

$r \geq .43 (df=19) p < .05$,* $r \geq .55 p < .01$**

MEASURES-SICCS PUPIL OUTCOMES
TABLE 32.

	mean	SD	range
SAT			
composite percentile	61.9	26.3	6-99
SICCS			
leadership	1.6	2.6	0-8
creativity	1.4	1.8	0-6
communication	12.0	10.6	0-33
C Checklist	12.8	2.2	9-16
L Checklist	12.4	2.5	7-16
I Checklist	12.8	2.5	8-16

Study 5.12

Sample. A self-contained class of 23 5th grade students.

Setting. A small, rural, public elementary school classroom

Number of Lessons Observed. 4 (1 Writing, 1 English, 1 History, 1 Social Studies)

Mean Time of Observation. 27.5 minutes

Coder Identity. IHR trainee

SICCS Unit/Focus of Observation. Verbal acts/all students as individuals

Level of Observation. Direct observation only/3 talent categories

Other Measures. Creativity Checklist, Leadership Checklist, Intelligence Checklist, Stanford Achievement Test-Intermediate Level II

Purpose. To correlate and compare creativity, leadership, and intelligence scores attributed to students by their classroom teacher with their SAT composite percentile scores and observed leadership, creativity, and verbal communication in the classroom.

Results.

MEASURES/SICCS TABLE 33.

	mean	SD	range
C Checklist	11.1	2.1	7-15
L Checklist	11.7	2.9	7-16
I Checklist	11.5	2.8	6-16
SAT			
composite percentile	56.4	26.5	8-99
SICCS			
leadership	2.4	2.2	0-10
creativity	.3	.6	0-2
communication	13.4	6.0	3-29

PRODUCT-MOMENT CORRELATIONS OF MEASURES BY OBSERVED STUDENT TALENT PERFORMANCE
TABLE 34.

	Leadership	Creativity	Communication
C Checklist	.17	-.28	-.03
L Checklist	.20	-.30	-.04
I Checklist	.09	.13	-.02
SAT composite percentile	.01	.05	.03

Study 5.24

Sample. A class of 31 6th grade students

Setting. A city-based, public elementary school classroom

Number of Lessons Observed. 5 (3 Social Studies, 1 Science, 1 Spelling)

Mean Time of Observation. 40 minutes

Coder Identity. IHR trainees

SICCS Unit/Focus of Observation. Verbal acts/students as individuals

Level of Observation: Direct observation only/3 talent categories

Other Measures. Iowa Tests of Basic Skills-Form 3 (ITBS), Stanford Diagnostic Reading Test-Form W Level II (SDRT), Creativity Checklist

Purpose. To correlate and compare student ITBS vocabulary, language skills, composite scores, SDRT scores, and creativity scores attributed to students by their teacher with post-test observations of creativity, leadership, and verbal communication in the classroom.

The results of Study 5.24 are reported on the next page.

Results.

MEASURES/SICCS TABLE 35.

	mean	SD	range
ITBS			
vocabulary	62.4	15.7	44-94
language skills	60.7	14.4	34-88
composite	61.8	11.4	42-84
C Checklist	12.7	3.9	5-20
SDRT	66.9	22.3	6-111
SICCS			
leadership	13.0	13.4	0-63
creativity	2.1	3.0	0-12
communication	26.7	26.6	0-100

PRODUCT-MOMENT CORRELATIONS OF MEASURES BY OBSERVED STUDENT TALENT PERFORMANCE
TABLE 36.

	Leadership	Creativity	Communication
ITBS			
vocabulary	.51**	.67**	.50**
language skills	.39*	.31	.33
composite	.54**	.63**	.52**
SDRT	.52**	.70**	.53**
C Checklist	.56**	.65**	.57**

$r \geq .35 (d.f.=30) p < .05, *r \geq .45 p < .01$**

Study 5.13

Sample. A self-contained class of 33 6th grade students.

Setting. A small, rural, public elementary school classroom

Number of Lessons Observed. 4 (Language Arts)

Mean Time of Observation. 15 minutes

Coder Identity. Special education teacher

SICCS Unit/Focus of Observation. Verbal acts/all students as individuals

Level of Observation. Direct observation only/3 talent categories

Other Measures. Creativity Checklist, Leadership Checklist, Intelligence Checklist, Stanford Achievement Test-Intermediate Level II

Purpose. To correlate and compare creativity, leadership, and intelligence scores attributed to students by their classroom teacher with their SAT composite percentile scores and observed leadership, creativity, and verbal communication in the classroom.

Results.

MEASURES/SICCS TABLE 37.

	mean	SD	range
C Checklist	11.7	.9	8-14
L Checklist	12.4	2.4	8-14
I Checklist	12.6	2.5	8-18
SAT			
composite percentile	61.6	27.8	3-99
SICCS			
leadership	.7	1.1	0-4
creativity	.4	.8	0-4
communication	4.8	4.3	0-17

PRODUCT-MOMENT CORRELATIONS OF MEASURES BY OBSERVED STUDENT TALENT PERFORMANCE
TABLE 38.

	Leadership	Creativity	Communication
C Checklist	.31	-.40*	.25
L Checklist	.16	.16	.15
I Checklist	.27	.32	.21
SAT			
composite percentile	.46**	.38*	.31

$r \geqslant .34 (d.f.=32) p < .05, *r \geqslant .43 p < .01$**

Study 5.14

Sample. A self-contained class of 24 7th grade students

Setting. A small, rural public junior high school classroom

Number of Lessons Observed. 4 (History)

Mean Time of Observation. 27.5 minutes

Coder Identity. Special education teacher

SICCS Unit/Focus of Observation. Verbal acts/all students as individuals

Level of Observation. Direct observation only/3 talent categories

Other Measures. Creativity Checklist, Leadership Checklist, Intelligence Checklist, Stanford Achievement Test-Advanced Level

Purpose. To correlate and compare creativity, leadership, and intelligence scores attributed to students by their classroom teacher with their SAT composite percentile scores and observed leadership, creativity, and verbal communication in the classroom.

Results.

MEASURES/SICCS TABLE 39.

	mean	SD	range
C Checklist	11.9	2.0	8-16
L Checklist	11.8	2.0	8-18
I Checklist	12.0	2.8	8-18
SAT			
composite percentile	53.5	29.9	4-98
SICCS			
leadership	6.4	7.8	0-28
creativity	1.8	2.4	0-8
communication	12.4	14.0	0-50

PRODUCT-MOMENT CORRELATIONS OF MEASURES BY OBSERVED PUPIL TALENT PERFORMANCE
TABLE 40.

	Leadership	Creativity	Communication
C Checklist	.17	.20	.23
L Checklist	.01	-.10	-.01
I Checklist	-.02	-.16	-.01
SAT			
composite percentile	-.12	-.23	-.17

Study 5.23

Sample. A class of 24 7th grade students

Setting. City-based, public junior high school classrooms

Number of Lessons Observed. 4 (1 Literature, 2 English, 1 History)

Mean Time of Observation. 20 minutes

Coder Identity. IHR trainee

SICCS Unit/Focus of Observation. Verbal acts/all students as individuals

Level of Observation. Direct observation only/3 talent categories

Other Measures. Cognitive Abilities Test (CAT), Creativity Checklist

Purpose. To correlate and compare student CAT verbal, quantitative, nonverbal scores and creativity scores attributed to them by their teacher with observed post-test leadership, creativity, and verbal communication in the classroom.

Results.

MEASURES/SICCS TABLE 41.

	mean	SD	range
CAT			
verbal	100.9	12.8	74-126
quantitative	102.5	11.7	73-127
nonverbal	100.4	14.1	76-126
C Checklist	11.3	2.5	6-16
SICCS			
leadership	4.6	6.9	0-27
creativity	.9	1.5	0-5
communication	11.4	15.1	0-62

PRODUCT-MOMENT CORRELATIONS OF MEASURES BY OBSERVED STUDENT TALENT PERFORMANCE
TABLE 42.

	Leadership	Creativity	Communication
CAT			
verbal	-.01	-.06	.05
quantitative	.08	.07	.08
nonverbal	.04	.03	.12
C Checklist	.10	.65**	.15

$r \geqslant .51 (d.f. = 23) p < .01$**

Study 5.25

Sample. A class of 30 7th grade students

Setting. City-based, public junior high school classrooms

Number of Lessons Observed. 4 (2 Social Studies, 1 Science, 1 Language Arts)

Mean Time of Observation. 35 minutes

Coder Identity. IHR trainees

SICCS Unit/Focus of Observation. Verbal acts/students as individuals

Level of Observation. Direct observation only/3 talent categories

Other Measures. Iowa Tests of Basic Skills-Form 3 (ITBS), Stanford Diagnostic Reading Test-Form W Level II (SDRT), Creativity Checklist

Purpose. To correlate and compare student ITBS vocabulary, language skills, composite scores, SDRT scores, and creativity scores attributed to students by their teacher with post-test observations of creativity, leadership, and verbal communication in the classroom.

Results.

MEASURES/SICCS TABLE 43.

	mean	SD	range
ITBS			
vocabulary	68.5	17.2	36-98
language skills	66.1	18.1	36-104
composite	67.1	15.4	44-98
C Checklist	11.1	4.8	4-19
SDRT	76.2	28.5	32-123
SICCS			
leadership	2.7	4.6	0-19
creativity	.7	1.7	0-7
communication	14.1	15.3	1-54

PRODUCT-MOMENT CORRELATIONS OF MEASURES BY OBSERVED STUDENT TALENT PERFORMANCE
TABLE 44.

	Leadership	Creativity	Communication
ITBS			
vocabulary	.98**	.40*	.97**
language skills	.23	.31	.35
composite	.77**	.43*	.90**
SDRT	.28	.38*	.68**
C Checklist	.55**	.51**	.60**

$r \geq .36$ (d.f.=29) $p < .05$ * $r \geq .46$ $p < .01$ **

Study 5.22

Sample. A class of 11 7th grade students.

Setting. City-based, public junior high school classrooms

Number of Lessons Observed. 4 (2 Social Studies, 1 Math, 1 Literature)

Mean Time of Observation. 23.8 minutes

Coder Identity. IHR trainee

SICCS Unit/Focus of Observation. Verbal acts/all students as individuals.
Level of Observation. Direct observation only/3 talent categories

Other Measures. Cognitive Abilities Test (CAT), Creativity Checklist

Purpose. To correlate and compare student CAT verbal, quantitative, nonverbal scores and creativity scores attributed to them by their teacher with observed post-test leadership, creativity, and verbal communication in the classroom.

Results.

MEASURES/SICCS TABLE 45.

	mean	SD	range
CAT			
verbal	117.8	8.2	108-136
quantitative	116.0	10.1	97-137
nonverbal	114.2	8.9	102-133
SICCS			
leadership	11.8	9.2	2-28
creativity	5.7	5.6	0-16
communication	33.1	20.8	9-68
C. Checklist	9.3	1.6	7-23

The correlational findings for Study 5.22 appear in TABLE 46. on the next page.

PRODUCT-MOMENT CORRELATIONS OF MEASURES BY OBSERVED STUDENT TALENT PERFORMANCE
TABLE 46.

	Leadership	Creativity	Communication
CAT			
verbal	.41	.54	.30
quantitative	.08	.25	.26
nonverbal	.03	.34	.11
C Checklist	.66*	.82**	.62*

$r \geq .58$ (d.f.=10) $p < .05$, *$r \geq .71$ $p < .01$**

Creativity. The verbal act unit and SICCS talent categories are utilized in the following studies. Considerable data is made available on SICCS talent category correlations with standard measures of intelligence and achievement as well as teacher checklists. Also, of particular interest are the studies using the Torrance Tests of Creative Thinking, the Preconscious Activity Scale, and the Remote Associates Test. These tests are assumed to measure some common and distinct qualities and dimensions of the creativity construct. Inturn, just as one might expect some degree of association between the verbal talent categories and verbal intelligence and achievement, one also would expect there to be some convergency and positive correlation between the talent categories and the forementioned creativity measures. Finally, the following studies include data obtained with the Pre-school and Primary and Adult (non-college) versions of the Nowicki-Strickland Internal-External Control Scales. These scales presume to measure in young children and teenagers respectively the generalized expectancy for or perceived locus of control of reinforcement. According to Rotter (1966) this expectancy appears "When a reinforcement is perceived by the subject as following some action of his own but not being entirely contingent upon his action, then, in our culture it is typically perceived as the result of luck, chance, fate, as under the control of powerful others, or as unpredictable because of the great complexity of the forces surrounding him. When the event is interpreted in this way by an individual, we have labeled this a belief in external control. If the person perceives that the event is contingent upon his own behavior or his own relatively permanent characteristics, we have termed this a belief in internal control." (p. 1).

Inasmuch as a high score on the Nowicki-Strickland scales represents a greater degree of perceived externality, it is predicted that there will be negative or inverse correlations between externality and observed leadership, creativity, and communication scores.

Study 5.2

Sample. A self-contained class of 12 3rd grade pupils

Setting. A small town, public, elementary school classroom used by 3rd and 4th grade.

Number of Lessons Observed. 3 (1 Reading, 1 Spelling, 1 Science)

Mean Time of Observation. 23.3 minutes

Coder Identity. IHR trainees

SICCS Unit/Focus of Observation. Verbal acts/pupils as individuals

Level of Observation. Direct observation only/3 talent categories

Other Measures. Torrance Tests of Creative Thinking (TTCT)-Thinking Creatively with Pictures-Booklet B, Developmental Reading Test (DRT), Creativity Checklist, Leadership Checklist, Intelligence Checklist

Purpose. To correlate and compare creativity, leadership, intelligence scores attributed to pupils by their teacher and pre-observation TTCT creativity and DRT scores with post-test observations of creativity, leadership, and communication in the classroom.

Results.

MEASURES/SICCS TABLE 48.

	mean	SD	range
TTCT-figural			
fluency	23.1	7.2	14-36
flexibility	16.3	4.0	8-23
originality	29.2	13-5	17-55
elaboration	74.3	30.3	24-127
DRT	43.7	6.0	32-54
C Checklist	11.0	2.5	6-16
L Checklist	12.3	4.3	6-18
I Checklist	10.8	3.4	5-15
leadership	5.8	7.3	0-25
creativity	2.0	2.0	0-6
communication	16.5	16.4	0-68

The correlational findings are reported in TABLE 49. on the next page.

PRODUCT-MOMENT CORRELATIONS OF MEASURES BY OBSERVED PUPIL TALENT PERFORMANCE
TABLE 49.

	Leadership	Creativity	Communication
TTCT-figural			
fluency	-.48	-.30	-.30
flexibility	-.37	-.31	-.38
originality	.03	.10	.08
elaboration	-.21	.12	-.32
DRT	.65*	.64*	.55*
C Checklist	.87**	.69**	.83**
L Checklist	.77**	.66*	.69**
I Checklist	.75**	.61*	.66*

$r \geq .55$ (d.f.=11) $p < .05$,* $r \geq .68$ $p < .01$**

Study 5.5

Sample. A self-contained classroom of 16 3rd and 11 4th grade pupils taught jointly by two teachers.

Setting. A small, rural, public elementary school classroom

Number of Lessons Observed. 3rd grade 4(3 Social Studies, 1 Reading), 4th grade 3 (Social Studies)

Mean Time of Observation. 3rd grade 25 minutes, 4th grade 23.3 minutes

Coder Identity. IHR trainees

SICCS Unit/Focus of Observation. Verbal acts/all pupils as individuals

Level of Observation/Categories Used. Direct observation only/3 talent categories

Other Measures. Creativity Checklist, Torrance Tests of Creative Thinking-Figural Test Booklet B (Thinking Creatively With Pictures)

Purpose. To correlate and compare creativity scores attributed to pupils by their teacher with pupil scores on each dimension of creativity in the TTCT and observational codings of leadership, creativity, and verbal communication in classrooms with two alternating teachers.

The results of Study 5.5 are reported in TABLES 50. and 51. on the next page.

MEASURES/SICCS TABLE 50.

	Grade					
	3rd (n=16)			4th (n=11)		
	mean	SD	range	mean	SD	range
C Checklist	12.2	4.5	4-18	12.5	6.3	6-20
TTCT-figural						
fluency	22.8	6.2	11-35	11.0	20.1	13-31
flexibility	15.4	4.4	7-25	15.6	4.1	9-21
originality	30.4	13.1	10-58	22.6	9.3	9-40
elaboration	43.5	12.3	24-63	52.2	15.2	22-77
SICCS						
leadership	7.7	9.0	0-34	3.8	5.9	0-21
creativity	1.3	2.2	0-7	.6	1.0	0-4
communication	30.6	19.9	2-67	18.9	14.8	0-52

PRODUCT-MOMENT CORRELATIONS OF MEASURES BY OBSERVED PUPIL TALENT PERFORMANCE
TABLE 51.

	Leadership		Creativity		Communication	
Grades	3	4	3	4	3	4
C Checklist	.07	.52	.33	.24	.54*	.66*
TTCT-figural						
fluency	.51*	-.18	.46	-.11	.45	-.10
flexibility	.48*	-.05	.36	-.04	.44	.15
originality	.56*	.68*	.68**	.62*	.62**	.47
elaboration	.47	.49	.43	.49	.50*	.12

Grade 3, $r \geq .48$ (d.f.=15) $p < .05$,* $r \geq .61$ $p < .01$**

Grade 4, $r \geq .58$ (d.f.=10) $p < .05$*

Study 5.6

Sample. A self-contained classroom of 10 5th and 5 6th grade students

Setting. A small, rural, public elementary school classroom

Number of Lessons Observed. 5th and 6th together 4 (3 History, 1 Geography)

Mean Time of Observation. 32.5 minutes

Coder Identity. One principal/teacher, two IHR trainees

SICCS Unit/Focus of Observation. Verbal acts/all students as individuals

Level of Observation/Categories. Direct observation only/3 talent categories

Other Measures. Creativity Checklist, Leadership Checklist, Intelligence Checklist, Torrance Tests of Creative Thinking-Verbal Test Booklet B (Thinking Creatively With Words)

Purpose. To correlate and compare creativity, leadership, intelligence scores attributed by teachers with student scores on each dimension of creativity in the TTCT and observational codings of leadership, creativity, and verbal communication in the classroom.

Results.

MEASURES/SICCS TABLE 52.

	Grade					
	5th (n=10)			6th (n=5)		
	mean	SD	range	mean	SD	range
C Checklist	7.4	2.0	4-10	11.4	.8	10-12
L Checklist	8.9	2.1	6-12	13.2	2.4	11-17
I Checklist	9.9	2.6	6-14	13.2	1.6	11-15
TTCT-verbal						
fluency	60.9	32.2	18-124	59.0	37.0	32-111
flexibility	26.5	11.2	10-49	29.4	9.1	19-42
originality	26.5	11.6	10-45	25.8	19.0	9-61
SICCS						
leadership	3.8	2.4	0-7	4.0	3.0	1-9
creativity	.5	.7	0-2	.0	.0	0
communication	22.8	10.4	10-45	26.6	11.1	5-35

NOTE: A brief discussion of the measures associated with the SICCS talent categories including the correlational relationships is reserved for the section IV. Summary. The correlational findings for Study 5.6 are reported in TABLE 53. on the next page.

PRODUCT-MOMENT CORRELATIONS OF MEASURES BY OBSERVED STUDENT TALENT PERFORMANCE
TABLE 53.

	Leadership		Creativity		Communication	
Grades	5	6	5	6	5	6
C Checklist	.60*	.75	.30	.00	.68*	.90*
L Checklist	-.02	.25	.32	.00	.31	.51
I Checklist	.05	.46	.32	.00	.33	.70
TTCT-verbal						
fluency	-.09	.43	.00	.00	-.46	.41
flexibility	.16	.89*	-.10	.00	-.10	.56
originality	-.33	.34	.12	.00	-.26	.36

5th grade $r \geq .60$ (d.f.=9) $p < .05$*

6th grade $r \geq .81$ (d.f.=4) $p < .05$*

Study 5.1

Sample. A German class consisting of four juniors and eight seniors (four girls, eight boys) with a mean age of 16.8 years was observed in the morning.

Setting. A large public high school classroom

Number of Lessons Observed. 4 in English

Mean Time of Observation. 26.5 minutes

Coder Identity. Guidance counselor

SICCS Unit/Focus of Observation. Verbal acts/all students as individuals

Level of Observation/Categories. Direct observation only/3 talent categories

Other Measures. Preconscious Activity Scale, Adult Nowicki-Strickland Internal-External Control Scale, Remote Associates Test (high school-form 1), Creativity Checklist

Purpose. To correlate and compare creativity scores attributed to students by the teacher and pretest student scores on the PAS, ANS-IE, and RAT with post-test observational codings of leadership, creativity, and verbal communication in the classroom.

Results.

MEASURES/SICCS TABLE 54.

	mean	SD	range
C Checklist	25.2	5.8	15-34
PAS	22.1	9.1	7-29
ANS-IE	12.4	5.8	4-24
RAT	22.8	4.5	18-32
SICCS			
leadership	18.0	11.3	10-44
creativity	10.0	8.9	0-32
communication	43.4	24.9	24-98

PRODUCT-MOMENT CORRELATIONS OF MEASURES BY OBSERVED STUDENT TALENT PERFORMANCE TABLE 55.

	Leadership	Creativity	Communication
C Checklist	.51	.50	.66*
PAS	.01	.49	.20
RAT	.48	.68**	.52
ANS-IE	-.30	-.44	-.33

$r \geq .55$ (d.f.=11) $p < .05$,* $r \geq .68$ $p < .01$**

Study 5.20

Sample. A class of 24 2nd grade pupils

Setting. A city-based, public, elementary schoolroom

Number of Lessons Observed. 4 (2 Science, 1 Social Studies, 1 Language Arts)

Mean Time of Observation. 17.5 minutes

Coder Identity. IHR trainee

SICCS Unit/Focus of Observation. Verbal acts/all pupils as individuals

Level of Observation. Direct observation only/3 talent categories

Other Measures. California Test of Mental Maturity (CTMM), Pre-school and Primary Nowicki-Strickland Internal-External Control Scale (PPNS-IE), Creativity Checklist, Stanford Achievement Test-Primary Level 1

Purpose. To correlate and compare pre-observation CTMM I.Q., PPNS-IE, SAT total battery and vocabulary test scores and creativity scores attributed to pupils by their teacher with post-test observations of leadership, creativity, and verbal communication in the classroom.

Results.

MEASURES/SICCS TABLE 56.

	mean	SD	range
CTMM I.Q.	106.5	13.8	80-132
PPNS-IE	11.9	4.4	6-15
SAT			
total battery	36.3	10.0	18-60
vocabulary	31.8	10.2	20-60
C Checklist	22.9	4.9	16-32
SICCS			
leadership	1.0	2.5	0-6
creativity	2.5	8.8	0-10
communication	17.0	14.0	0-49

PRODUCT-MOMENT CORRELATIONS OF MEASURES BY OBSERVED PUPIL TALENT PERFORMANCE
TABLE 57.

	Leadership	Creativity	Communication
CTMM I.Q.	-.19	.06	-.22
PPNS-IE	.28	.41*	.05
SAT			
total battery	.28	.25	.30
vocabulary	.38	.36	.32
C Checklist	.51**	.46	.51**

$r \geq .40$ (d.f.=23) $p < .05$,* $r \geq .51$ $p < .01$**

Study 5.3

Sample. A self-contained classroom of 10 3rd graders

Setting. A small public, elementary school classroom

Number of Lessons Observed. 3 (1 Language Arts, 1 Health & Safety, 1 Health & Drug)

Mean Time of Observation. 28.3 minutes

Coder Identity. IHR trainee

SICCS Unit/Focus of Observation. Verbal acts/all pupils as individuals

Level of Observation/Categories. Direct observation only/3 talent categories

Other Measures. Creativity Checklist, Pre-school and Primary Nowicki-Strickland Internal-External Control Scale

Purpose. To correlate and compare creativity scores attributed to pupils by the teacher and pretest pupil scores on the PPNS-IE with post-test observational codings of leadership, creativity, and communication in the classroom.

Results.

MEASURES/SICCS TABLE 58.

	Mean	SD	range
C Checklist	20.2	4.6	13-27
PPNS-IE	12.8	3.2	6-17
SICCS			
leadership	27.0	21.3	7-64
creativity	13.1	7.7	2-27
communication	99.6	43.2	46-189

PRODUCT-MOMENT CORRELATIONS OF MEASURES BY OBSERVED PUPIL TALENT PERFORMANCE
TABLE 59.

	Leadership	Creativity	Communication
C Checklist	.43	.53	.50
PPNS-IE	-.40	-.49	-.42

Study 5.15

Sample. A self-contained class of 1? 2nd grade pupils

Setting. A city, public, elementary school classroom

Number of Lessons Observed. 4 (Language Arts)

Mean Time of Observation. 32.5 minutes

Coder Identity. IHR trainee

SICCS Unit/Focus of Observation. Verbal acts/all pupils as individuals

Level of Observation. Direct observation only, but teacher tape-recorded 2 lessons and checked against the observor's codings to learn system/3 talent categories.

Other Measures. Creativity Checklist, Pre-school and Primary Nowicki-Strickland Internal-External Control Scale

Purpose. To correlate and compare creativity scores attributed to pupils by their classroom teacher and PPNS-IE pre-test scores with post-test codings of leadership, creativity, and verbal communication in the classroom. Also, to provide orientation and practice coding experience to a classroom teacher learning the system.

Results.

MEASURES/SICCS TABLE 60.

	mean	SD	range
C Checklist	28.1	5.0	20-36
PPNS-IE	12.5	2.5	9-18
SICCS			
leadership	11.8	12.7	0-47
creativity	7.3	6.8	0-29
communication	39.1	30.3	1-128

PRODUCT-MOMENT CORRELATIONS OF MEASURES BY OBSERVED PUPIL TALENT PERFORMANCE
TABLE 61.

	Leadership	Creativity	Communication
C Checklist	.56**	.55*	.59**
PPNS-IE	.11	.08	-.03

$r \geq .44$ (d.f.=13) $p < .05$,* $r \geq .56$ $p < .01$**

Study 5.4

Sample. A music class composed of one 5th, two 4th, three 6th grade boys, and one 6th grade girl (n=7). The class met once a week in the afternoon. It was taught by a student teacher during the periods of observation.

Setting. A large, public, elementary school district's music room

Number of Lessons Observed. 3

Mean Time of Observation. 24 minutes

Coder Identity. Music teacher

SICCS Unit/Focus of Observation. Verbal acts/all pupils as individuals

Level of Observation/Categories. Direct observation only for lessons one and two, direct observation and audio recording for lesson three/ 2 talent categories (leadership omitted)

Other Measures. Creativity Checklist, Adult Nowicki-Strickland Internal-External Control Scale

Purpose. To correlate and compare creativity scores attributed to students by the teacher and pretest pupil scores on the ANS-IE with post-test observational codings of creativity and verbal communication by the teacher when the class is instructed by a student teacher.

Results.

MEASURES/SICCS TABLE 62.

	mean	SD	range
C Checklist	27.3	4.3	20-35
ANS-IE	14.3	4.3	7-21
SICCS			
creativity	5.6	1.9	3-9
communication	16.6	4.7	7-22

PRODUCT-MOMENT CORRELATIONS OF MEASURES BY OBSERVED STUDENT TALENT PERFORMANCE
TABLE 63.

	Creativity	Communication
C Checklist	-.48	-.68
ANS-IE	.36	.26

Perceived Group Cohesiveness. At times critics of behavioral observation research have raised concerns regarding various possible, but not necessarily plausible effects that a given stranger might provoke in others. This group will be too inhibited and anxious, or that group will be noisy and too disruptive. After all, no matter how trained, sensitive, and unobtrusive the observer, the fact remains that for the group in question a potentially threatening and/or responsive newcomer appears

to be monitoring the behavior of others in the setting. Although a considerable body of literature is available to debate these issues (including studies of the "halo effect," social facilitation, and the communication of expectancies) to a point of no resolve, the following practical suggestions are offered for use in the direct observation of verbal acts:

1) Have the teacher or group leader, if appropriate, make a short introduction in behalf of the observer. For example, the teacher may announce ahead of time or when the coder appears in the classroom, "Mr. Jones is here to observe the lesson.", "Miss Smith is here to watch our group activity.", "Ms. Brown is here to watch me teach."

2) Find and maintain a neutral, passive, and unobtrusive location in the setting. A side to almost diagonal back (occasionally to the front) location is usually better than a complete front, corner, and back position. Avoid, wherever possible, direct, in-line, eye-to-eye contact with the teacher (or group leader) and other persons in the setting. Be sure to not intervene or block in any way the characteristic directions and pathways of communication and mobility in the setting. If possible, the coder can try to code all observations for a given sampling time period from one location or balance out the number of observations taken from different locations.

3) Always observe as many times as is possible and feasible for the purpose at hand. In many cases it will be better to spread a series of observations out over a number of days and weeks than to use only a brief and concentrated period of observation. Also, the serious observer may want to sample different time blocks and balance out the number of observations made within each time block. All observations can provide invaluable baseline data around which further sampling procedures and systematic refinements can be formulated.

4) The coder should assure the anonymity and safeguard the confidentiality of all persons under observation by using unique numbers for identification purposes.

5) The coder may wish to visit and sit in the setting a few times to familiarize himself with the identification system and resolve any unique problems in the setting before coding any subsequent sessions.

A well-trained coder who is confident and adept at using the SICCS of observation can follow these suggestions without affecting adversely the participation of individuals and their perceived cohesiveness in the group.

The author has developed a 20-item Inventory of Individually Perceived Cohesiveness (IIPGC), a copy of which can be found in the Appendix. The measure asks each subject to estimate the degree of

attention (0=no emphasis to 4= a great deal of emphasis) given to ideas, liking, expectations, influence, cooperation, and continuity in the group. The summed values yield respectively an influence on task, cooperation, expectational control, and total scores. Johnson and Ridener (1974) used the IIPGC to study possible relationships with subject self-disclosure and self-initiated behavior. The IIPGC was given to 23 undergraduate subjects after their second and fourth group discussions. A KR 20 split-half reliability estimate of responses to the inventory yielded a stable alpha coefficient of .90.

The following five field studies used the IIPGC to check the degree and stability of perceived cohesiveness in naturalistic groups under observation with the SICCS.

Study 4.2

Sample. A small, voluntary social service group of 4 members (1 black male, 1 black female, 2 white females) with a mean age of 58.3 years. The group is 7 months old and has been conducting Friday luncheon meetings every week. The group meets to raise money and plan activities for Senior citizens.

Setting. A city-based, neighborhood community center meeting room

Number of Meetings Observed. 4 (planning sessions)

Mean Time of Observation. 32.8 minutes

Coder Identity. Graduate student

SICCS Unit/Focus of Observation. Verbal acts[11]./group members

Level of Observation. Direct observation only/two mode categories--appraisal (app) and questioning (Qq) and one talent category--positive self-referenced (S)

Other Measures. Inventory of Individually Perceived Group Cohesiveness (IIPGC)

Purpose. To document the stability of IIPGC total, influence on task, cooperation, expectational control scores in an ongoing, voluntary social service group observed during 4 meetings. To examine concurrently the frequency, proportion, and kind of appraisal, questioning, and self-referenced acts observed in verbal interaction.

11. Verbal acts were restricted to any single statement and the last statement in a monologue of utterances by a group member.

IIPGC TABLE 64.

	Total		Influence on Task		Cooperation		Expectational Control	
	mean	SD	mean	SD	mean	SD	mean	SD
Pre-session 1	19.2	5.7	25.8	1.9	18.8	2.5	13.0	2.6
Post-session 4	16.9	5.6	23.0	1.9	17.3	1.0	10.5	2.7

No statistically significant shifts between pre-session 1 and post-session 4 variable means were noted.

VERBAL ACT TABLE 65.

Modes	frequency	proportion of mode	proportion of total acts
Appraisal			
∄	47	38%	5%
J	75	62%	9%
Total	122	100%	14%
Questioning			
q	173	85%	21%
Q	30	15%	3%
Total	203	100%	24%
Nonappraisal/ nonquestioning	520	-	62%
Total # of Verbal Acts	845	-	100%

POSITIVE SELF-REFERENCED ACTS TABLE 66.

	Self-referenced			Nonself-referenced	
	S	$	Total	Total	Total # of Verbal Acts
frequency	77	41	118	727	845
% of S acts	65%	35%	100%	-	-
% of total acts	9%	5%	14%	86%	100%

Study 4.4

Sample. A small, voluntary, political group of 3 precinct workers organized to help reelect a state congressman and meeting almost daily.

Setting. Office headquarters of the state congressman

Number of Meetings Observed. 4 (organizational)

Mean Time of Observation. 40 minutes

Coder Identity. Graduate student

SICCS Unit/Focus of Observation. Verbal acts[12]./group members

Level of Observation. Direct observation only/two mode categories--prescriptive (presp) and informational (inf) and one talent category--self-referenced

Other Measures. Inventory of Individually Perceived Group Cohesiveness (IIPGC)

Purpose. To document the stability of IIPGC total, influence on task, cooperation, and expectational control scores over 4 meetings in a social group organized for one short-term, but specific purpose. To examine concurrently the frequency, proportion, and kind of prescriptive, informational, and self-referenced acts observed in verbal interactions.

Results.

IIPGC TABLE 67.

	Total		Influence on Task		Cooperation		Expectational Control	
	mean	SD	mean	SD	mean	SD	mean	SD
Pre-session 1	16.4	6.1	24.7	1.0	13.0	.9	11.7	1.5
Post-session 4	14.3	5.7	21.7	1.5	11.7	1.5	9.7	1.5

No statistically significant shifts between pre-session 1 and post-session 4 variable means were noted.

POSITIVE SELF-REFERENCED ACTS TABLE 68.

	Self-referenced			Nonself-referenced	
	S	♀	Total	Total	Total # of Verbal Acts
frequency	46	33	79	210	289
% of S acts	58%	42%	100%	-	-
% of total acts	16%	11%	27%	73%	100%

[12]. Verbal acts were restricted to any single statement and the last statement in a monologue of utterances by a group member.

SICCS MODE TABLE 69.

Modes	frequency	proportion of mode	proportion of total acts
Prescriptive			
sd	66	82%	23%
d	15	18%	5%
Total	81	100%	28%
Informational			
in	72	56%	25%
inu	57	44%	20%
Total	129	100%	45%
Total Nonprescriptive/ Noninformational	79	-	27%
Total # of Verbal Acts	289	-	100%

Study 4.11

Sample. A small, white, middle-class, voluntary, Baptist church group of 7 members. The group has been meeting regularly Wednesday nights for 5 months to discuss social issues facing young people. A designated leader from outside the group presents the topic for the meeting.

Setting. A meeting room in this city-based church

Number of Meetings Observed. 4 (Different topics, e.g., exorcism)

Mean Time of Observation. 60 minutes

Coder Identity. Graduate student

SICCS Unit/Focus of Observation. Verbal acts[13]./all group members excluding topic presenters are coded.

Level of Observation. Direct observation only/two mode categories--prescriptive (presp) and informational (inf) and one talent category--self-referenced were used.

Other Measures. Inventory of Individually Perceived Group Cohesiveness

Purpose. To document the stability of IIPGC total, influence on task, cooperation, expectational control scores in an ongoing social group observed over 4 meetings. To examine concurrently the frequency, proportion, and kind of prescriptive, informational, and self-referenced acts observed in verbal interaction.

[13]. Verbal acts were restricted to any single statement and the last statement in a monologue of utterances by a group member.

Results.

IIPGC TABLE 70.

	Total		Influence on Task		Cooperation		Expectational Control	
	mean	SD	mean	SD	mean	SD	mean	SD
Pre-session 1	19.1	4.1	23.1	4.3	22.9	3.3	11.3	4.5
Post-session 4	18.1	5.4	21.4	3.5	21.6	1.3	11.1	2.7

No statistically significant shifts between pre-session 1 and post-session 4 variable means ($t's < 1$) were noted.

SICCS MODE TABLE 71.

Modes	frequency	proportion of mode	proportion of total acts
Prescriptive			
sd	1	5%	1%
d	20	95%	18%
Total	21	100%	19%
Informational			
in	52	69%	46%
inu	23	31%	21%
Total	75	100%	67%
Total Nonprescriptive/ Noninformational	16	-	14%
Total # of Verbal Acts	112	-	100%

POSITIVE SELF-REFERENCED ACTS TABLE 72.

	Self-referenced			Nonself-referenced	
	S	$	Total	Total	Total # of Verbal Acts
frequency	12	5	17	95	112
% of S acts	71%	29%	100%	-	-
% of total acts	11%	4%	15%	85%	100%

Study 4.17

Sample. A small group of 4 Campfire Girls (3 black, 1 white) with a mean age of 16.3 years. Each group member comes from a broken home of low socio-economic status, and two members have stuttering problems.

Sample (cont'd). The group is encouraged by the local school district to involve themselves more in outdoor and arts/crafts activities. The group meets once every week.

Setting. A room provided by a local, city-based, public, elementary school.

Number of Meetings Observed. 4

Mean Time of Observation. 45 minutes

Coder Identity. Graduate student

SICCS Unit/Focus of Observation. Verbal acts[14]./group members as individuals

Level of Observation. Direct observation only/two mode categories--appraisal (app) and questioning (Qq) and one talent category--productive

Other Measures. Inventory of Individually Perceived Group Cohesiveness

Purpose. To document the stability of IIPGC total, influence on task, cooperation, expectational control scores over 4 meetings of an ongoing social-recreational youth group. To examine concurrently the frequency, proportion, and kind of appraisal, questioning, and productive acts observed in verbal interaction. To compare individual scores on the IIPGC with individual performance on the SICCS categories.

Results.

IIPGC TABLE 73.

	Total		Influence on Task		Cooperation		Expectational Control	
	mean	SD	mean	SD	mean	SD	mean	SD
Pre-session 1	8.2	3.9	4.8	3.6	12.0	1.3	7.8	2.2
Post-session 4	8.3	3.9	5.0	2.9	12.0	2.5	8.0	2.2

No statistically significant shifts between pre-session 1 and post-session 4 variable means were noted.

[14]. Verbal acts were restricted to any single statement and the last statement in a monologue of utterances by a group member.

SICCS-MODE TABLE 74.

Modes	frequency	proportion of mode	proportion of total acts
Appraisal			
J	84	62%	15%
J	51	38%	10%
Total	135	100%	25%
Questioning			
q	83	76%	15%
Q	27	24%	5%
Total	110	100%	20%
Total Nonappraisal/ Nonquestioning	305	-	55%
Total # of Verbal Acts	550	-	100%

PRODUCTIVE ACTS TABLE 75.

	Speaker Acts		
	Productive	Nonproductive	Total # of Verbal Acts
frequency	68	482	550
% of total acts	12%	88%	100%

IIPGC TABLE 76.

	Group Members			
IIPGC Individual	#1	#2	#3	#4
	mean	mean	mean	mean
Perceived influence on task	6.5	7.5	0.0	3.5
Perceived cooperation	13.5	12.5	12.5	9.0
Perceived expectational control	9.0	11.0	5.0	6.5
Total perceived cohesiveness	9.7	11.0	6.0	6.3

The mode-talent results for Study 4.17 are reported on the next page.

SICCS MODE-TALENT TABLE 77.

Individuals	Appraisal		Questioning		Productive Acts (P)	N of Verbal Acts
	a	A	q	Q		
#1						
f	22	24	5	4	14	85
%	26	47	6	14	21	16
#2						
f	25	23	58	8	22	327
%	30	45	70	30	32	60
#3						
f	18	4	10	15	30	99
%	21	8	12	56	44	18
#4						
f	19	0	10	0	2	39
%	23	0	12	0	3	6
Total	84	51	83	27	68	550

It is interesting to note that member #3 perceived no group influence on the task, the least amount of perceived expectational control and total cohesiveness, but was the most creatively productive and broad questioning member. On the other hand, member #2 tended to be the most verbal, judgmental, and narrow questioner in the group, and tended to perceive more cohesiveness in the group.

Study 4.20

Sample. A small professional nurses and nurses' aids hospital group of 5 females (1 Mexican-American, 1 black, 3 white) with a mean age of 37.8 years. The group meets every other week on Tuesday's and Thursday's between the morning and afternoon shifts.

Setting. A nurses' station in a city-based general hospital

Number of Meetings Observed. 4 (orientation & organizational for group members coming on duty)

Mean Time of Observation. 25.5 minutes

Coder Identity. Graduate student

SICCS Unit/Focus of Observation. Verbal acts[15]/group members

Level of Observation. Direct observation only/two mode categories--prescriptive (presp) and informational (inf) and one talent category--productive

15. Verbal acts were restricted to any single statement and the last statement in a monologue of utterances by a group member.

Other Measures. Inventory of Individually Perceived Group Cohesiveness

Purpose. To document the stability of IIPGC total, influence on task, cooperation, expectational control scores over 4 meetings in an ongoing professional work group organized to maintain and perform essential hospital duties. To examine concurrently the frequency, proportion, and kind of prescriptive, informational, and productive acts observed in verbal interaction.

Results.

IIPGC TABLE 78.

	Total		Influence on Task		Cooperation		Expectational Control	
	mean	SD	mean	SD	mean	SD	mean	SD
Pre-session 1	16.3	4.9	22.0	1.4	13.2	4.0	13.8	1.7
Post-session 4	16.6	4.4	22.4	2.1	12.6	4.6	14.0	1.9

No statistically significant shifts between pre-session 1 and post-session 4 variable means were noted.

SICCS MODE TABLE 79.

Modes	frequency	proportion of mode	proportion of total acts
Prescriptive			
sd	12	35%	5%
d	22	65%	9%
Total	34	100%	14%
Informational			
in	94	74%	38%
inu	33	26%	13%
Total	127	100%	51%
Total Nonprescriptive/ Noninformational	86	-	35%
Total # of Verbal Acts	247		100%

PRODUCTIVE ACTS TABLE 80.

	Productive	Nonproductive	Total # of Verbal Acts
frequency	16	231	247
% of total acts	6%	94%	100%

The results of these studies and many others suggest that the systematic, direct observation and coding of verbal act and interact behavior in the SICCS categories does not have an adverse effect on social participation and performance, and appears to have no significant effect at all on the perceived cohesiveness of group members. Further examination of the theoretically-derived, but time-independent SICCS units and categories under different sample, coding, and setting conditions is needed. Also, the development and utilization of more sensitive and appropriate statistical tools for complex interactional, sequential, and contextual analyses (e.g., Rausch, 1965; Collet and Semmel, 1974; Prokop, 1974) should be encouraged.

IV. Summary

According to the SICCS model (Figure 1.), leadership, particularly of the self-initiated and spontaneous type, creativity, and verbal communication are natural behavioral processes that can be examined empirically in relation to defined verbal act and sequential interact units of observation. These social psychological processes appear to be mutually facilitative, that is, the context, antecedent modes, expectational setting contexts, and opportunity structures that influence and encourage any one SICCS talent (e.g., verbal participation, positive self-referencing, productivity, etc.) also facilitate the expression of the others.

Behavioral data. TABLE 81. summarizes the interact talent outcomes described in this report. Generally-speaking the total frequency of interacts, self-initiated verbal acts, length, and number of succeeding verbal acts tends to increase in the group as grade level increases.

SICCS INTERACT TALENT OUTCOMES SUMMARY TABLE 81.
(n= 5 studies)

Talent	mean f and % per observation for the group		mean % of total interacts	mean f per observation for each member
Self-initiated	19.5	28%	29%	1.4
Positive Self-referenced	13.0	12%	14%	.7
Productive	6.5	8%	10%	.5
Length[16].	10.9	28%	28%	1.2
Number	23.0	22%	21%	1.0
Total Interacts	83.2	-	100%	4.8

16. Length is calculated here on 3 studies (1.1, 2.1, 4.1). The frequency and proportions are inflated slightly because of the modification in the definition of length in study 4.1.

Creativity appears to be facilitated, in part, by the sheer quantity and extent of speaker verbal activity. However, no clear trend or pattern of output on a group or individual level can be reported at this time. Creativity appears to be very sensitive to so many interactional and situational factors, that a reduction in any one variable does not necessarily generate sequential increments of interact talent occurrence.

TABLES 82., 83., and 84. report the verbal act talent outcomes for field studies of kindergarten and grades one through nine. Again, one notes that the lowest frequency of codings appears in the creativity category which decreases rather steadily per individual student as grade level increases.

VERBAL ACT TALENT OUTCOMES SUMMARY OF MEAN FREQUENCIES AND STANDARD DEVIATIONS FOR KINDERGARTEN, GRADES ONE, TWO, THREE TABLE 82.

	Grades							
Talent	K (n=2 studies)		1 (6 studies)		2 (9 studies)		3 (15 studies)	
	f	SD	f	SD	f	SD	f	SD
Leadership individual scores	9.7	8.8	17.4	16.6	16.1	8.7	12.4	11.7
Creativity individual scores	4.1	4.0	7.1	8.5	5.4	4.6	4.0	3.6
Communication individual scores	27.7	24.4	46.4	41.8	47.3	23.4	40.1	24.4

VERBAL ACT TALENT OUTCOMES SUMMARY OF MEAN FREQUENCIES AND STANDARD DEVIATIONS FOR GRADES FOUR, FIVE, SIX TABLE 83.

	Grades					
Talent	4 (n=7 studies)		5 (n=10 studies)		6 (n=7 studies)	
	f	SD	f	SD	f	SD
Leadership individual scores	10.1	9.3	5.0	4.9	9.2	7.5
Creativity individual scores	3.1	2.8	2.5	2.9	2.0	2.3
Communication individual scores	34.2	20.0	19.9	15.6	26.4	19.1

VERBAL ACT TALENT OUTCOMES SUMMARY OF MEAN FREQUENCIES AND STANDARD DEVIATIONS FOR GRADES SEVEN, EIGHT, NINE
TABLE 84.

	Grades					
Talent	7(n=9 studies)		8(n=2 studies)		9(n=1 study)	
	f	SD	f	SD	f	SD
Leadership individual scores	10.0	10.0	13.4	11.1	1.3	2.2
Creativity individual scores	1.8	2.4	1.1	2.1	.8	1.3
Communication individual scores	24.2	22.2	28.5	23.8	16.7	18.2

The direct observation of verbal acts is used primarily in settings where spontaneous verbal behavior is appearing, and when it is not feasible to use audio and/or audio-video tape recordings. The SICCS of observation can be used to study selected individuals (e.g., gifted and talented children), different social positions (teacher-pupil, counselor-client, doctor-patient, etc.) interacting role participants (Mrs. Brown, Jimmy, Jane, class audience, etc.), entire classrooms, grade levels, and school populations in any one or more behavioral categories. Although the accuracy of observation and reliability of coding is aided considerably by the use of mechanical recording devices, the SICCS approach to systematic observation can be used for a variety of theoretical, programmatic, evaluation, and practical in-setting purposes without technological support.

Correlational data. TABLE 85. summarizes the correlational findings of field studies using standard measures of achievement. The correlations for leadership (overall mean .34, range .06-.75) and creativity (overall mean .33, range .04-64) tend to converge with each other. The correlations with verbal communication (overall mean .42, range .07-.92) tend to be higher, particularly on the Stanford Diagnostic Reading Test and standard vocabulary measures as expected.

TABLE 86. summarizes a comparable array of mean correlations with cognitive ability measures. The correlations for leadership (overall mean .07, range-.19 to .32) and verbal communication (overall mean .08, range-.22 to .30) tend to converge with each other. The correlations with creativity tend to be slightly higher (overall mean .18, range .06 to .54), particularly with the Lorge-Thorndike Intelligence Test.

MEAN PRODUCT-MOMENT CORRELATIONS STANDARD ACHIEVEMENT MEASURES BY VERBAL ACT TALENT OUTCOMES SUMMARY

TABLE 85.

	Leadership	Creativity	Communication
Stanford Achievement Test			
total battery(n=12 studies)	.25	.30	.23
vocabulary(n=3 studies)	.34	.23	.34
Metropolitan Readiness Tests			
(n=1 study)	.07	.16	.09
SRA-High School Placement Test			
(n=1 study)			
composite achievement	.16	.19	.19
educational ability quotient	.36	.04	.29
SRA-Achievement Series			
(n=1 study)			
vocabulary	.06	.26	.92
spelling	.06	.20	.07
Stanford Diagnostic Reading			
Test (n=2 studies)	.40	.54	.61
Iowa Tests of Basic Skills			
(n=2 studies)			
vocabulary	.75	.54	.74
language skills	.31	.31	.34
composite achievement	.66	.53	.71
Developmental Reading Test			
(n=1 study)	.65	.64	.55

Generally, the correlations tend to be low consistently, and below the .28's and .30's reported earlier by MacKinnon (1961), Barron (1968), and Aratesh (1968). The advocate position of a strong relationship between paper and pencil measures of intelligence and performance measures of creativity is not supported by the findings of these simple correlational studies.

TABLE 87. displays the mean correlations reported for the paper and pencil measures of creativity and the SICCS talent performance categories. Surprisingly the two studies of the TTCT-verbal form did not correlate as significantly and consistently as the TTCT-figural originality scores and the Remote Associates Test scores. The TTCT-figural originality, elaboration, the Preconscious Activity Scale, and the RAT scores were correlated positively and consistently higher with observed creative behavior.

TABLE 88. shows the respective correlations for the Gifted and Talented Screening Form's (GTSF) leadership, creativity, and intelligence checklist items and the extended 8-item Creativity Checklist with the SICCS performance categories.

MEAN PRODUCT-MOMENT CORRELATIONS STANDARD COGNITIVE ABILITY MEASURES BY VERBAL ACT TALENT OUTCOME SUMMARY TABLE 86.

	Leadership	Creativity	Communication
Cognitive Abilities Test (n-3 studies)			
verbal	.18	.09	.10
quantitative	.03	.09	.02
nonverbal	.02	.07	.02
Otis-Lennon Mental Ability Test (n=1 study)	.32	.22	.30
Lorge-Thorndike Intelligence Test (n=1 study)	.08	.54	.25
California Test of Mental Maturity (n=1 study)	-.19	.06	-.22

MEAN PRODUCT-MOMENT CORRELATIONS CREATIVITY TESTS BY VERBAL ACT TALENT OUTCOMES SUMMARY TABLE 87.

	Leadership	Creativity	Communication
Torrance Tests of Creative Thinking-Figural (n=3 studies)			
fluency	-.05	-.02	-.05
flexibility	.02	.00	.07
originality	.42	.47	.39
elaboration	.25	.35	.10
Torrance Tests of Creative Thinking-Verbal (n=2 studies)			
fluency	.17	.00	.03
flexibility	.53	-.05	.23
originality	.01	.06	.05
Preconscious Activity Scale (n=1 study)	.01	.49	.20
Remote Associates Test (n=1 study)	.48	.68	.52

The GTSF checklist items were consistently and positively correlated with the three SICCS talents. The GTSF checklist correlations with leadership and communication tended to be higher than with creativity. However, the creativity checklist items were correlated higher with creative behavior than were the leadership and intelligence items.

MEAN PRODUCT-MOMENT CORRELATIONS CHECKLISTS BY VERBAL ACT TALENT OUTCOMES SUMMARY, TABLE 88.

Checklists	Leadership	Creativity	Communication
GTSF			
Leadership (n=12 studies)	.27	.21	.29
Creativity (n=18 studies)	.40	.33	.46
Intelligence (n=12 studies)	.27	.25	.30
Creativity Checklist (n=4 studies)	.50	.51	.57

The GTSF correlations were lower consistently than the extended 8-item Creativity Checklist correlations across the three talent categories. The strength of the GTSF creativity checklist items compared with the Creativity Checklist as possible predictors of subsequent creative performance in the setting would appear to favor the Creativity Checklist (mean r's of .51 > .13). Also, high mean product-moment correlations have been reported for the Creativity Checklist with the TTCT-verbal total scores ($\bar{X}r$ .56), the RAT (n=3 studies, $\bar{X}r$ .51), and the PAS (n=3 studies, $\bar{X}r$ .51). The reported GTSF creativity checklist item correlations were ($\bar{X}r$ .12) with the TTCT-figural total scores and ($\bar{X}r$ .33) with the TTCT-verbal total scores. Copies of the complete GTSF and Creativity Checklist can be found in the Appendix.

The mean product-moment internal-external control correlations with the verbal act performances are reported in TABLE 89. The ANS-IE consists of 40 items that can be answered either Yes or No. The ANS-IE is a standardized adult version of the Nowicki-Strickland locus of control scale for children (CNS-IE) developed at Emory University. The PPNS-IE version for younger children presents 26 items in a cartoon type format, one form for males and another for females. The higher the subject's score on either control scale, the greater the degree of externality attributed to the subject. The findings, reported in TABLE 89., support the prediction of a negative association between ANS-IE or PPNS-IE scores and observed creativity, leadership, and verbal communication in the classroom.

It is hoped that this brief first report will encourage others to learn more about and begin to use the SICCS of observation. For it is only with such continued objective, systematic, and diversified usage that one can really determine the applicability, utility, and scope of this behavioral observation methodology.

MEAN PRODUCT-MOMENT CORRELATIONS INTERNAL-EXTERNAL CONTROL SCALES BY VERBAL ACT TALENT OUTCOMES SUMMARY TABLE 89.

	Leadership	Creativity	Communication
Adult Nowicki-Strickland Internal-External Control Scale (n=1 study)	-.30	-.44	-.33
Pre-school and Primary Nowicki-Strickland Internal-External Control Scale (n=3 studies)	.00	-.05	-.05

V. Appendix

The following measures have been developed by the Institute of Human Resources for gifted and talented children's programs and for use with the SICCS studies described in this report.

Inventory of Individually Perceived Group Cohesiveness. The IIPGC is a self-report, 20-item inventory measure of the individual's perception of emphases given to variable aspects of cohesiveness in the group. The measure asks each respondent to estimate the degree of attention (0=no emphasis, 1=slight emphasis, 2=moderate emphasis, 3=strong emphasis, 4=a great deal of emphasis) given to content focusing on the perceived influence on task (items #1, 3, 5, 11, 12, 18, 19, 20), perceived cooperation (items 2, 7, 9, 10, 14, 16, 17), and perceived expectational control (items #4, 6, 8, 13, 15). A total individual perceived cohesiveness score is obtained by summing all 20 items for a given respondent, and, of course, a total group score is obtained by summing across all members of the group.

Gifted and Talented Screening Form. Although the literature is rampant with various kinds of checklist, a review and synthesis of modal elements yielded the following general GTSF. This form was developed initially to introduce the screening process in six talent clusters to school districts developing programs for gifted children for the first time. The GTSF's content screens for academic ability (items #1, 4, 5, 24), intelligence (items #6, 8, 14, 21), creativity (items #3, 10, 12, 19), leadership (items #2, 7, 9, 11), visual arts (items #16, 17), performing arts (items #13, 18), psychomotor ability in athletics (items #15, 22), and psychomotor ability in mechanics (items #20, 23). By pooling the visual and performing arts items and the psychomotor items,

Name_____ Date_____

IIPGC

Rate each item for the amount of emphasis you think your group gave it. Answer each item by placing a checkmark in one of the spaces opposite that item.

	Items - Group Discussion	A great deal of emphasis	Strong emphasis	Moderate emphasis	Slight emphasis	No emphasis
1)	Emphasis in the group on discussion					
2)	Emphasis in the group on getting along with each other					
3)	Emphasis in the group on different ideas					
4)	Emphasis in the group on setting priorities					
5)	Emphasis in the group on everyone having their say					
6)	Emphasis in the group on how everyone is supposed to behave					
7)	Emphasis in the group on having a good time					
8)	Emphasis in the group on what is most important					
9)	Emphasis in the group on sticking together					
10)	Emphasis in the group on companionship					
11)	Emphasis in the group on getting things done					
12)	Emphasis in the group on consideration of recommendations					
13)	Emphasis in the group on judgments of value					
14)	Emphasis in the group on involvement					
15)	Emphasis in the group on what ought to be done					
16)	Emphasis in the group on further meetings					
17)	Emphasis in the group on sharing					
18)	Emphasis in the group on commonality of ideas					
19)	Emphasis in the group on decision-making					
20)	Emphasis in the group on specific issues					

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six general talent areas are represented by four items. The total score for each talent area can vary from 4 (never) to 20 (consistently) by summing across their respective four items. Each school district is encouraged to do a comprehensive screening with this form on some, if not all, of the student population (typically K-9th grade) in order to begin the task of sorting out talent program priorities. Also, cut-off points from a minimum of 13 to a maximum ceiling of 20 points for each talent area can be declared and examined in relation to other talent identification procedures.

Creativity Checklist. The Creativity Checklist is an eight-item measure developed specifically for the formal identification of creativity. The scale scores vary from 1=never to 5=consistently. The individual's total score is obtained by summing across all eight items and can vary from 8 to a maximum of 40. The Creativity Checklist was used in Studies 5.1, 5.3, 5.4, 5.15, and 5.20 described in this report.

Care must be exercised in using any checklist. A teacher may for a variety of reasons or feelings think that some students are gifted and others are not, or that some students should have special opportunities and programs that are denied to others. Bias can only be reduced and controlled by employing more objective, systematic, and reliable means of identification. The SOCIAL INTERACTION AND CREATIVITY IN COMMUNICATION SYSTEM was designed to introduce more objectivity into talent identification programs, to develop the insights and observational skills of school practitioners, to assess the many processes and immediate conditions affecting behavioral performance, and to evaluate the distribution and development over time of student behavior in a variety of school programs and settings.

Many school districts are using the SICCS to identify the top 10% of student creativity, leadership, and communication skill at each grade level. These schools will establish local norms and criteria for differentiating exceptional student performance in their classrooms. At the present time an individual mean talent score across all periods of observation equal to or greater than one standard deviation above the grade level mean and no lower than a mean frequency equal to the number of observation sessions (e.g., if there were 4 observation sessions the person must have at least received 4 codings in the talent area of concern) is being used to identify gifted and talented children in regular, heterogeneous public school classrooms. New criteria will emerge, no doubt, as these talents and others are recognized, anticipated, and programmed for in a variety of educational and performance settings.

CHECK LIST CHARACTERISTICS FOR SCREENING THE GIFTED AND TALENTED

1) Can demonstrate an exceptional amount of factual knowledge.
2) Is looked to by others for decisions and direction.
3) Constructs and/or expresses imaginative ideas, stories, or solutions.
4) Can achieve high grades.
5) Enjoys reading and discussing what has been read.
6) Asks penetrating "why" questions that have no easy answers.
7) Can accept personal and social responsibilities.
8) Has curiousity and can have a wide range of interests or hobbies.
9) Takes initiative without being told.
10) Displays a unique sense of humor.
11) Can influence others to take action.
12) Can express original ideas in a spontaneous way.
13) Is able to realistically portray varied roles in story-telling or dramatic activities.
14) Demonstrates an understanding of concepts and relationships beyond his age group.
15) Enjoys considerable physical activity and games requiring coordinated movement.
16) Can put depth, balance, proportion, and originality into art work.
17) Can write with clarity, perceptiveness, realism, and imagination.
18) Enjoys and can participate in vocal, instrumental, dancing and rhythmic activities.
19) Can hold and defend unexpected and unconventional points of view.
20) Can manipulate and use mechanical objects atypical for his age.
21) Can accept and work through complicated tasks without distraction.
22) Is strong, fast, and well-coordinated.
23) Can visualize and understand complex mechanical relationships and functions.
24) Can apply concepts accurately without special effort.

Date_____ District #_____ Teacher_____ Grade___ School_____

Please indicate below how often the pupils enrolled presently in your classroom and/or school activities exhibit each of the characteristics listed on page one. Indicate to what extent you have observed each of these characteristics for each one of your pupils by writing in the appropriate scale number in the space provided.

For example:

5 Consistently

4 Frequently

3 Occasionally

2 Seldom

1 Never

CHARACTERISTICS

PUPILS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	TOTAL SCORE
1																									
2																									
3																									
4																									
5																									
6																									
7																									
8																									
9																									
10																									
11																									
12																									
13																									
14																									
15																									
16																									

Creativity Checklist
(Page 1)

CREATIVITY: Characteristics of the Person

The creative person is able to:

1. perceive and often prefers the subtle, ambiguous, and complex features of the social/psychological environment (preference for complexity and sensitivity).

2. generate and express many ideas (fluency).

3. free self from established expectations and express different ideas (flexibility).

4. build up and express additional details, ideas, stories, or solutions (elaboration).

5. combine and express imagination, humor, and hypothetical relationships (construction).

6. produce behavior that is unexpected, original, and adaptive to the requirements of a problem (productive)

7. suspend judgment, initiate activities, and make own decisions (independence).

8. express confidence, involvement, responsiveness, and assert responsibility for an unexpected position or a contribution to an activity (positive self-referencing).

Date_____Teacher_____Grade___School_____

Please indicate below how often the students enrolled presently in your classroom and/or school activities exhibit each of the creativity characteristics listed on page one. Indicate to what extent you have observed each of these characteristics for each one of your pupils by writing in the appropriate scale number in the space provided.

For example:

5 Consistently
4 Frequently
3 Occasionally
2 Seldom
1 Never

CREATIVITY CHARACTERISTICS

PUPILS	1	2	3	4	5	6	7	8	TOTAL SCORE

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